YG Cruze Owner's Handbook

YG CRUZE

Vehicle Identification Certificate

Owner's name

Owner's address

Town State Postcode

Vehicle Identification Number (17 character ISOVIN)

Model name

Registration number Engine number

Odometer reading

Date of purchase

Selling Retailer's Stamp and Signature

Holden Ltd, ABN 84 006 893 232 (hereinafter Holden)

Change of name, address or ownership
In the event of a Safety Recall, or for various reasons, Holden may need to contact you as the owner of this vehicle. Also, if less than three years old, this vehicle will qualify for Roadside Assistance, refer to Chapter 9.

If you have recently changed your address, or name, or purchased this vehicle second-hand, please help us to help you by taking a few minutes to fill in and mail the form on the third page of this handbook. For information about Holden's privacy policy, please visit Holden's website at www.holden.com.au.

Note: Please refer to the inside front cover of the service booklet for the Vehicle Identification Certificate.

Printed in Australia
Part No. 92209322
February 2004 (YG Cruze Print 2)

© 2004 Holden Ltd
Reproduction in whole or part is prohibited without written approval from Holden Ltd, ABN 84 006 893 232.

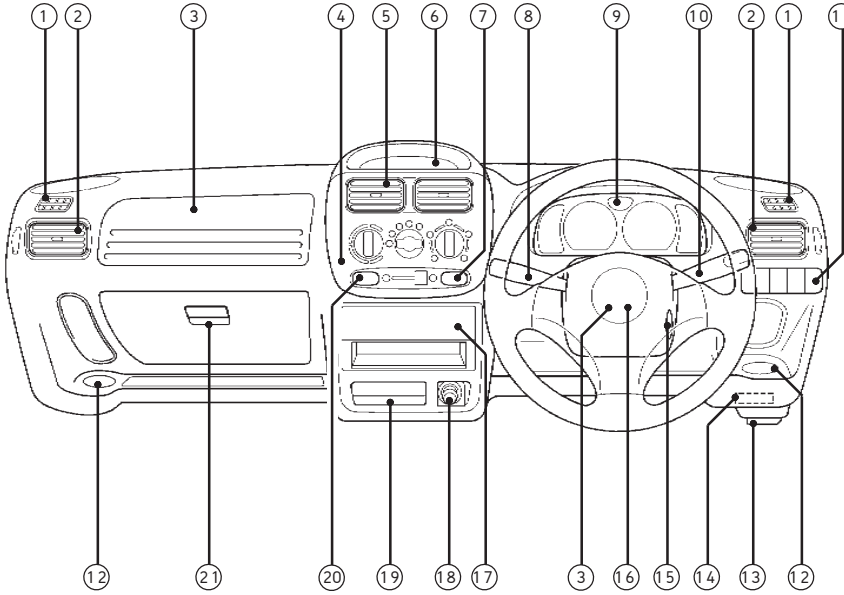
CHAPTER 1

Dashboard

Page

1-2 Dashboard layout
1-3 Tilt steering, horn and glovebox
1-4 Gauges
1-7 Clock / information display
1-11 Warning / reminder indicators
1-14 Wipers and washers
1-15 Exterior lamps
1-17 Ventilation
1-21 Heating
1-22 Air conditioning
1-24 Demisting
1-25 Cigarette lighter and ashtray
1-26 Ignition switch
1-27 Bonnet

DASHBOARD LAYOUT



		Chapter-Page
1	Side demisters	1-24
2	Side ventilators	1-17
3	Airbags	6-13
4	Heater control panel	1-21
5	Centre ventilator	1-17
6	Clock / information display	1-7
7	Hazard warning switch	1-16
8	Wiper / washer switch (front and rear)	1-14
9	Instrument panel	1-4
10	Lighting and turn signal	1-15
11	Mirror control, dimmer and fog lamp switches	1-6, 1-15
12	Cup holder	
13	Bonnet release	1-27
14	Fuse box	6-22
15	Ignition switch	1-26
16	Horn	1-3
17	Radio / CD*	
18	Cigarette lighter	1-25
19	Ashtray	1-25
20	Rear demister switch	1-24
21	Glovebox	1-3

***Note:** Refer to the audio leaflet for radio / CD operating instructions.

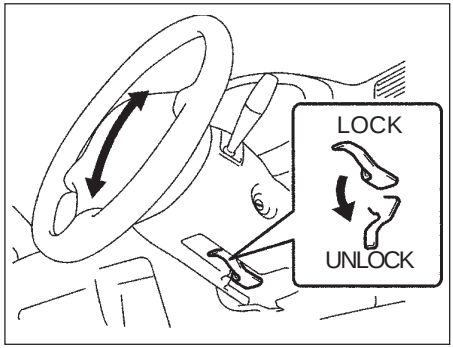
TILT STEERING, HORN AND GLOVEBOX

Tilt steering

Push down on the lock lever, located under the steering column, to adjust the steering wheel height.

After adjusting the steering wheel height, move the lock lever back to set the position.

Before driving, ensure the steering wheel height has locked securely.

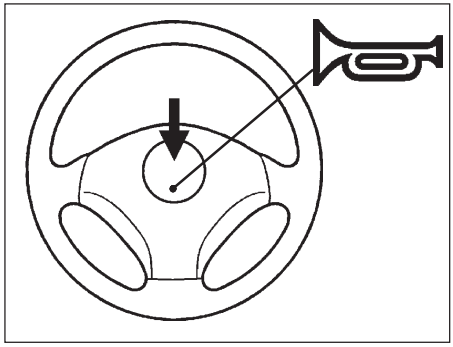


WARNING:

As with all driver position controls, do not attempt to adjust the steering wheel while driving.

Horn

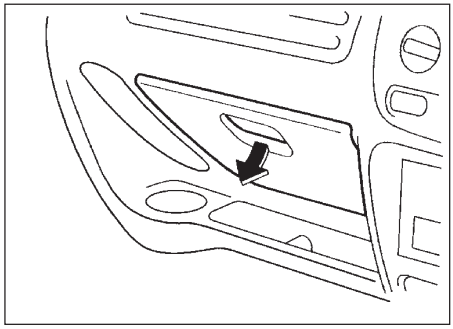
Press the centre section of the steering wheel to sound the horn.



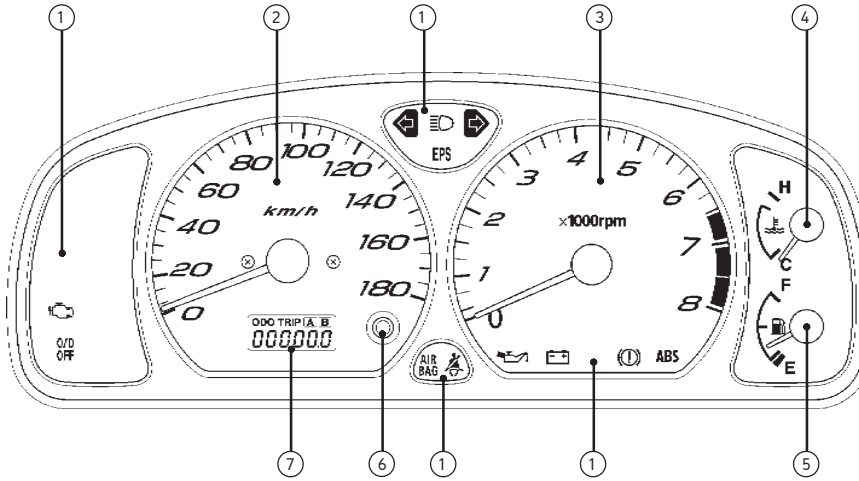
Glovebox

Lift the latch lever to open the glove box.

Push the lid until it latches to close the glove box.



GAUGES



		Chapter-Page
1	Warning / reminder indicators	1-11
2	Speedometer	1-4
3	Tachometer	1-5
4	Temperature gauge	1-5
5	Fuel gauge	1-6
6	Odometer / Tripmeter selector knob	1-4
7	Odometer / Tripmeter	1-4

Speedometer

The speedometer indicates vehicle speed in kilometres per hour (km/h).

Odometer / tripmeter display window

A window in the speedometer is used to display the odometer, tripmeter **A** and tripmeter **B**.

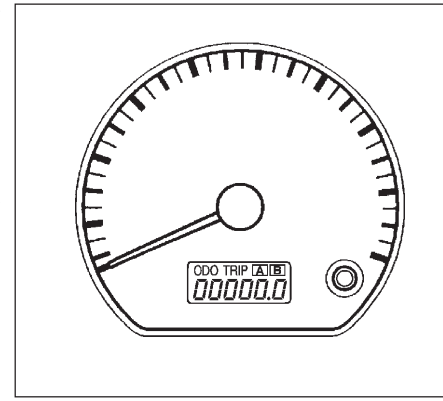
With the ignition switched on, the odometer or a tripmeter displays.

Press the selector knob located to the right of the window to change the display mode.

The odometer records kilometres travelled since the vehicle was built.

The tripmeters record kilometres travelled on a particular trip and can be used independently.

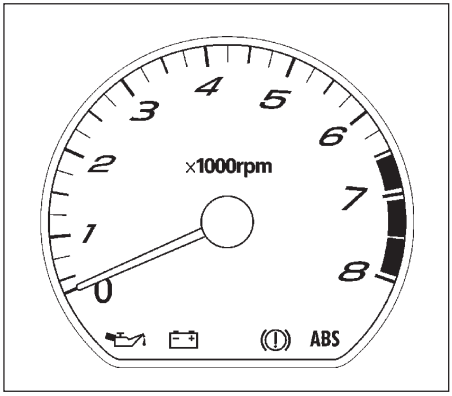
Press the selector knob for approximately 2 seconds to reset the tripmeter.



GAUGES cont.

Tachometer

The tachometer shows engine speed in revolutions per minute (rpm).



WARNING:

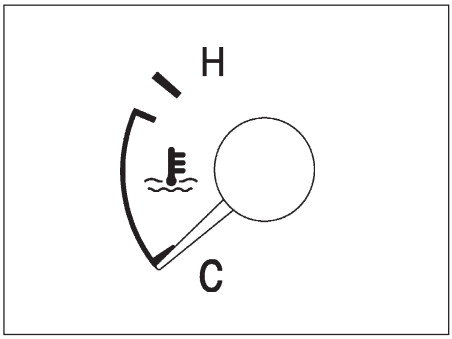
Do not drive with the engine speed (rpm) in the red zone. This can cause severe engine damage.

Engine temperature gauge

With the ignition switched on, this gauge indicates the engine coolant temperature.

The engine coolant level must be adequate for this gauge to function correctly. Refer to Chapter 7.

Under normal driving conditions, the needle should stay within the central zone on the gauge.



WARNING:

If the needle moves into the red zone, pull over as soon as it is safe to do so. Refer to Chapter 6.

GAUGES cont.

Fuel gauge

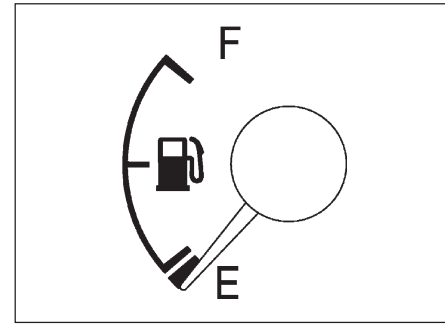
When the ignition is on, this gauge indicates the approximate amount of fuel in the fuel tank.

F = full

E = empty

Add fuel as soon as possible if the needle moves below the lowest graduation.

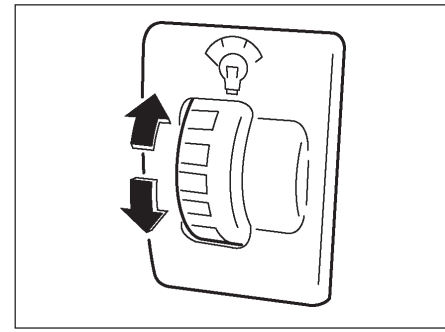
Do not let the tank become empty. Refer to Chapter 5.



Instrument panel illumination

The illumination control is located to the right of the steering wheel.

With the headlamps switched on, rotate the thumb wheel to adjust the instrument illumination brightness.

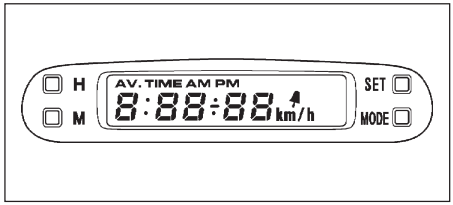


CLOCK / INFORMATION DISPLAY

The clock / information display provides a digital clock and an average speed indicator.

Select up to four functions depending on the position of the ignition switch.

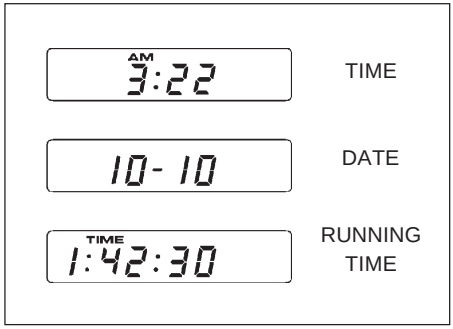
To switch between the functions, press the MODE button in quick succession.



ACC position

The display switches between three functions:

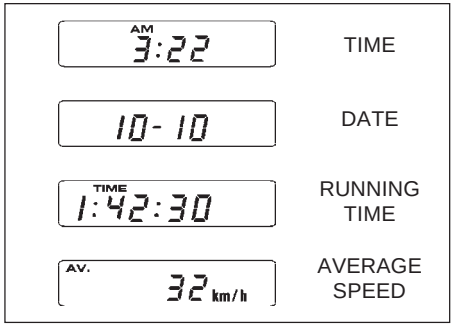
- time
- date
- running-time.



ON position

The display toggles between all four functions:

- time
- date
- running-time
- average speed.

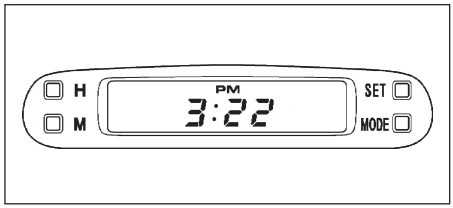


Time display

The time display has two functions:

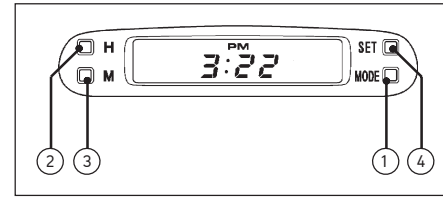
- time
- alarm.

The time and alarm can be set when the ignition is in the ACC or ON position.



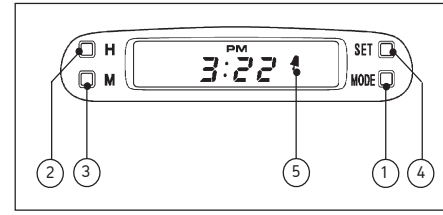
CLOCK / INFORMATION DISPLAY cont.

Set the time



1. Press and hold the **MODE** button (1) until the display blinks (approximately 2 seconds).
2. Press the **H** (hour) button (2) to advance the hour to your desired setting.
3. Press the **M** (minute) button (3) to advance the minutes to your desired setting.
4. Press the **SET** button (4) twice.

Set the alarm clock



1. Press and hold the **MODE** button (1) until the display blinks (approximately two seconds).
2. Press the **SET** button (4) once.
3. Press the **H** (hour) button (2) to advance the hour to your desired setting.
4. Press the **M** (minute) button (3) to advance the minutes to your desired setting.
5. Press the **SET** button once.

The alarm indicator (5) illuminates to confirm that the alarm is set.

When the alarm time arrives, the alarm sounds briefly. Cancel the sounding alarm by pressing the **SET** button once.

Note: The alarm setting remains programmed and active until it is cancelled.

Cancel the alarm clock

1. With the time displayed, press and hold the **MODE** button until the display blinks.
2. Press the **SET** button once.
3. Press and hold the **MODE** button until '-:--:--' displays.
4. Press the **SET** button once.

CLOCK / INFORMATION DISPLAY cont.

Running-time display

Running-time is the time that the ignition switch has been in the ON position, with or without the engine running.

The running-time display provides two functions:

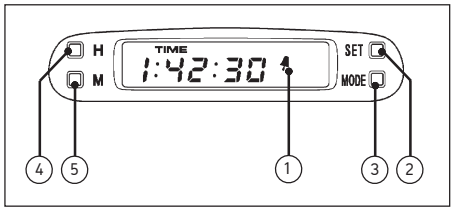
- progressive running-time
- running-time alarm.

Press the **MODE** button (3) twice to view the running time.

The running-time alarm can be set to sound after a specified length of running-time.

The alarm indicator (1) illuminates to confirm that the running-time alarm is set.

The alarm and running-time can be set and reset when the ignition switch is set to ACC or ON.



Reset the running-time

1. Press the **SET** button (2) for more than 1 second.

Set the running-time alarm

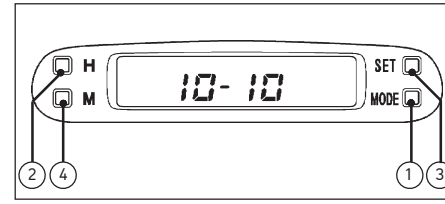
1. Press and hold the **MODE** button (3) until the display blinks (approximately 2 seconds).
2. Press the **H** (hour) button (4) to advance the hour to your desired setting.
3. Press the **M** (minute) button (5) to advance the day setting.
4. Press the **SET** button (2) once only. The running time displays.

Cancel the running-time alarm

1. With the running time displayed, press and hold the **MODE** button until the display blinks.
2. Press the **SET** button once.
3. Press and hold the **MODE** button until '-:--:--' displays.
4. Press the **SET** button once.

CLOCK / INFORMATION DISPLAY cont.

Date display



Set the date when the ignition switch is set to ACC or ON.

1. Press and hold the **MODE** button (1) until the display blinks.
2. Press the **H** (hour) button (2) to advance the year display.
3. Press the **SET** button (3) once.
4. Press the **H** button to advance the month.
5. Press the **M** (minute) button (4) to advance the day display.
6. Press the **SET** button once.

Average speed display

This displays the average vehicle speed since the ignition was last switched on (not necessarily driving time).

With the ignition on, press the **MODE** button (1) to display the average speed.

Reset the average speed value

Switch the ignition off to reset the average speed value.

With the ignition on, press the **SET** button for more than 1 second to reset the display.

WARNING / REMINDER INDICATORS

Check engine

Indicates when the emission control system requires servicing.

This indicator illuminates when the ignition is switched on and goes out shortly after the engine starts.

If the indicator illuminates when driving, consult a Holden Retailer as soon as possible. Continued driving while this indicator is illuminated could result in damage to the emission control system, poor fuel consumption and / or poor engine performance.

Overdrive off

Illuminates briefly when you switch on the ignition and stays illuminated when you disengage overdrive. Overdrive is engaged when the vehicle is started. Refer to Chapter 4, Automatic Transmission.

WARNING:

This indicator flashes when the ignition is on and a fault is detected in the automatic transmission system.

Turn signal indicators

Flashes with the respective turn signal lamps when the ignition is on.

A turn signal indicator flashing rapidly can indicate that a bulb has failed.

High beam

Illuminates when the high beam headlamps are on.

Electronic power steering

Illuminates when you switch the ignition on or if a fault occurs in the power steering system.

If this indicator illuminates when driving, consult a Holden Retailer.

Note: The vehicle can still be driven if the power steering system is faulty. However, due to the effort required to steer, consult a Holden retailer as soon as possible.

WARNING / REMINDER INDICATORSCont.

AIR BAG

Airbag and seat belt pretensioner system

Flashes six times and then goes out, when you switch the ignition on. Refer to Chapter 6.

WARNING:

If this indicator does not go out or if it comes on during driving, a defect may have occurred in the airbag or seat belt pretensioner system. Consult a Holden Retailer as soon as possible.

Seat belt

Illuminates when the ignition is switched on, as a reminder for seat belts to be worn. It remains illuminated until the driver's seat belt is fastened.

Oil pressure

Illuminates when the ignition is switched on and goes out after the engine starts.

Remains illuminated if the oil pressure is too low. Refer to Chapter 7.

WARNING:

Do not drive with this indicator illuminated. If it remains illuminated when driving, immediately stop the vehicle, switch off the engine and check the engine oil level. Refer to Chapter 7.

If the oil level is normal, have the system checked by a Holden Retailer.

If the engine is hot, the indicator may illuminate intermittently when idling. However, it should go out when the engine speed is increased.

Battery charge

Illuminates when the ignition is switched on and goes out when the engine is started.

If this indicator illuminates during driving, the battery is not being charged. (Engine cooling can also be affected.) Consult a Holden Retailer as soon as possible.

WARNING:

If this indicator does not go out, or if it comes on during driving, a defect may have occurred in the charging system. Consult a Holden Retailer as soon as possible.

WARNING / REMINDER INDICATORScont.

Brake system

Illuminates when:

- you switch the ignition to ON or START
- you engage the park brake
- the fluid in the brake fluid reservoir falls below a preset level.

The indicator goes out when you start the engine and fully release the park brake. The brake system is self-adjusting so the fluid level drops as the brake pads wear.

Note: The brake fluid level must be adequate for this indicator to function correctly. Refer to Chapter 7.

WARNING:

Consult a Holden Retailer if the warning indicator:

- **does not illuminate when you switch the ignition to ON or START**
- **does not go out after the engine starts and the park brake is released**
- **illuminates at any time during vehicle operation.**

If this indicator illuminates when driving and the park brake is fully released, pull off the road allowing a longer distance than usual to stop and check the function of the brakes. Consult a Holden Retailer as soon as possible.

Anti-lock Braking System (ABS) (if fitted)

Illuminates for approximately 2 seconds when this ignition is switched on.

If the indicator illuminates during driving, pull off the road and stop, switch the ignition to LOCK then restart the engine.

Note: If this indicator does not go out, a defect may have occurred in the ABS. Consult a Holden Retailer as soon as possible.

If there is a defect, the vehicle brake system remains operational but without ABS assistance. Refer to Chapter 4.

WIPERS AND WASHERS

Wipers and washers are operational when the ignition is on.

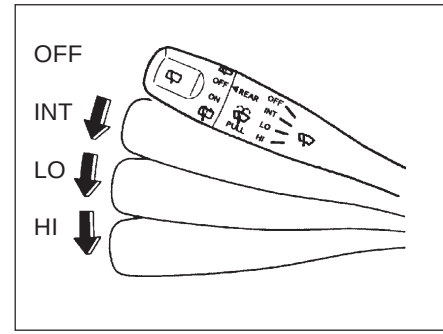
Windscreen wipers

The front windscreen wipers have three operating positions:

- INT: wipers sweep intermittently.
- LO: wipers sweep continually at a slow speed.
- HI: wipers sweep continually at a high speed.

Switch off the wipers by moving the lever to the OFF position.

Do not activate the wipers on dry glass as this can damage the wiper rubbers.

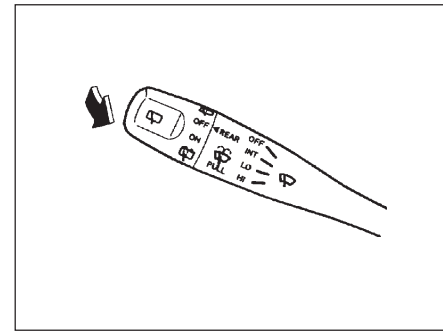


Windscreen washer

To spray washer fluid onto the windscreen, pull the lever toward you.

The wipers activate on low speed for one sweep.

Do not activate the washer when the washer fluid reservoir is empty.



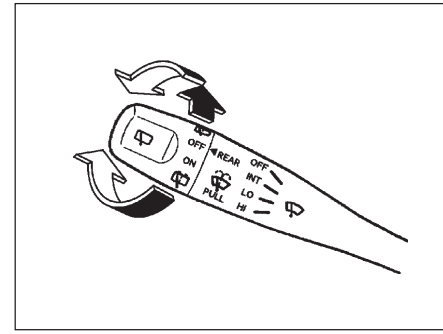
Rear window wiper / washer

Rotate the end section of the lever to the ON position to activate the rear wiper.

Return the switch to the OFF position to switch off the rear wiper.

Rotate the lever beyond ON or OFF to spray washer fluid onto the rear window.

The wiper sweeps once on low speed when the washer is activated beyond the OFF position.



EXTERIOR LIGHTING

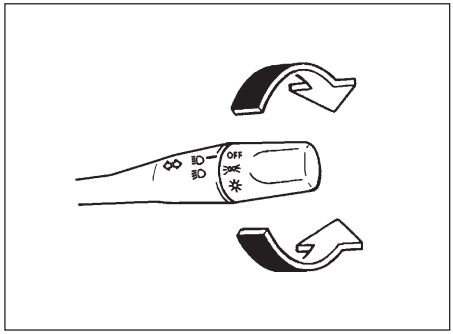
Light switch

Rotate the end section of the lever to the first position to switch on the:

- front parking lamps
- tail lamps
- licence plate lamp
- instrument lighting.

Rotate the end section of the lever to the second position to switch the headlamps on in addition to the above lighting.

Rotate the end section of the lever back to the OFF position to switch off all lighting.



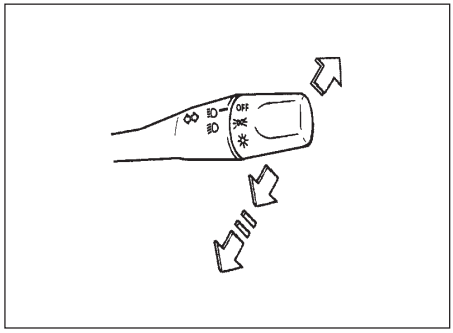
High / low beam

With the headlamps switched on, push the lever away from you to switch the lamps to high beam.

Pull the lever back towards you to return to low beam.

When high beam is selected, the high beam indicator illuminates in the instrument panel.

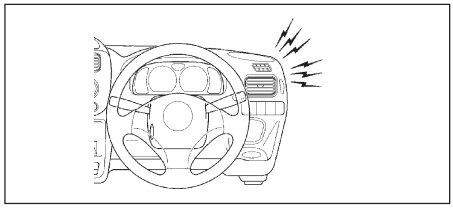
To momentarily activate the high beam lamps whether the headlamps are switched on or off, pull the lever towards you beyond the low beam position.



Warning chime

A warning chime sounds when:

- the lamps are left on
- the ignition key is removed
- the driver's door is open.

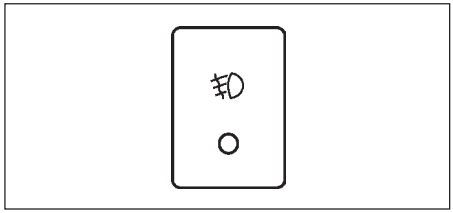


Fog lamp switch

The button for the fog lamps is located in the switch group to the right of the steering wheel.

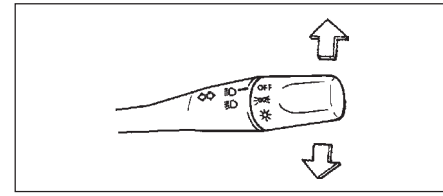
With the park lamps or headlamps switched on, press the fog lamp button to switch the fog lamps on.

Press the button again to switch off the fog lamps.



EXTERIOR LIGHTING cont.

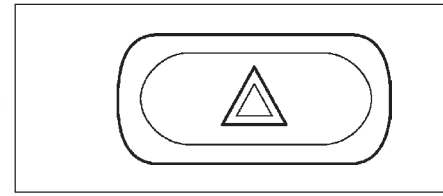
Turn signals



With the ignition on, push the lever up or down as required to signal a turn. The steering wheel cancels the signal when the turn is completed.

In some turns (such as changing lanes) the steering wheel is not rotated enough to cancel the signal. To indicate a lane change, move the lever part way and hold. The lever returns to the rest position when released.

Hazard lamps



The hazard lamp switch is red and located in the centre section of the dashboard.

Activate the hazard lamps to warn traffic of a hazardous situation.

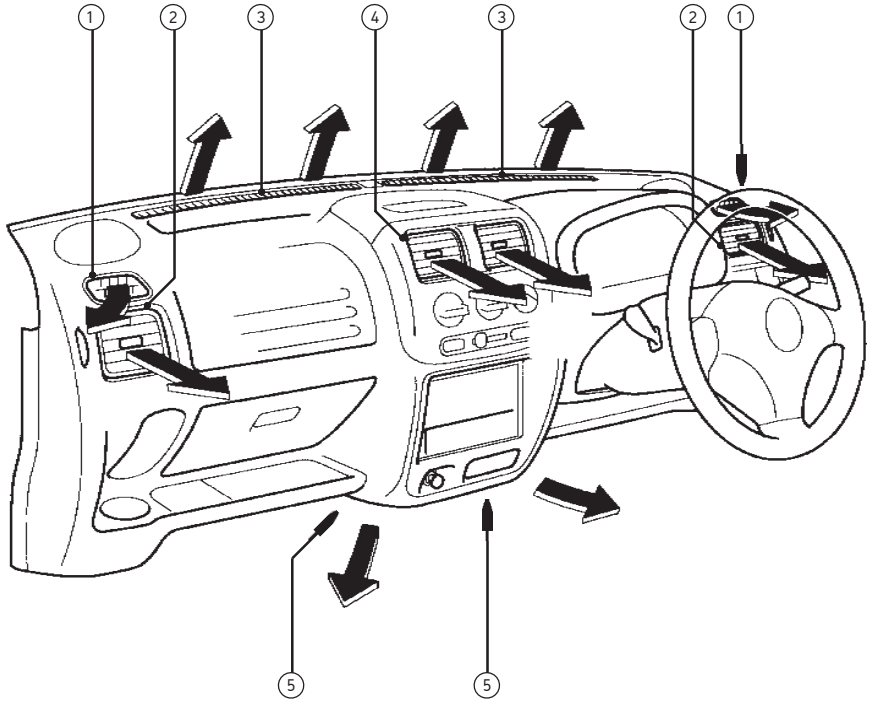
Press the hazard switch to activate the hazard lamps. All turn signal lamps flash simultaneously.

Press the switch again to switch off the hazard lamps.

Note: The use of the hazard warning lamps while the vehicle is moving is illegal in some states.

VENTILATION

Your vehicle features a flow through ventilation system for your comfort. Under reasonable conditions, it should not be necessary to open the windows.



1 Side demist vent

2 Side vent

3 Windscreen demist vent

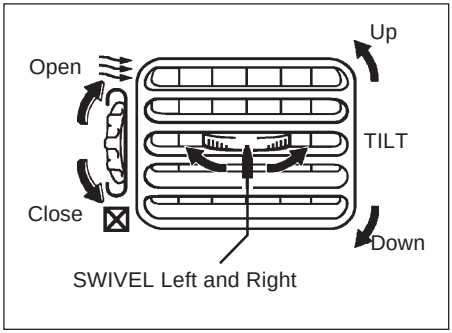
4 Centre vents

5 Foot vents

Vent adjustment

The demist and foot vents are not adjustable.

The vents in the centre and to the side of the dashboard are adjustable. They can be swivelled and tilted as required. The side vents can be completely closed.

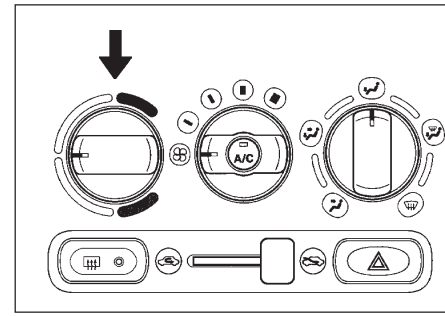


VENTILATION cont.

Temperature dial

Anticlockwise = cooler air

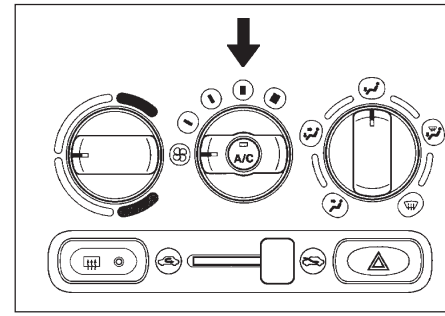
Clockwise = warmer air.



Fan dial

OFF plus four speeds.

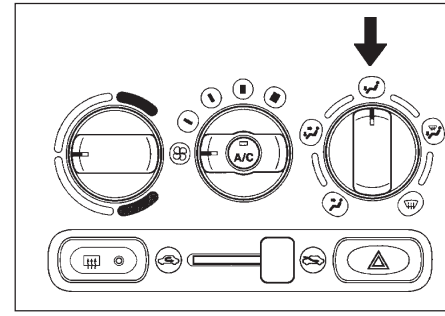
The air flow rate is affected by vehicle speed as well as by the fan.



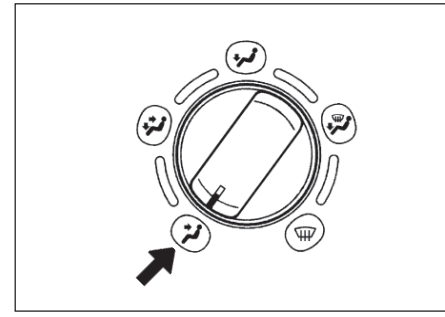
Vent dial

Five positions:

- Ventilation
- Bi-level
- Heat
- Heat and Demist
- Demist



VENTILATION
Temperature controlled air comes out of the centre and side air vents.

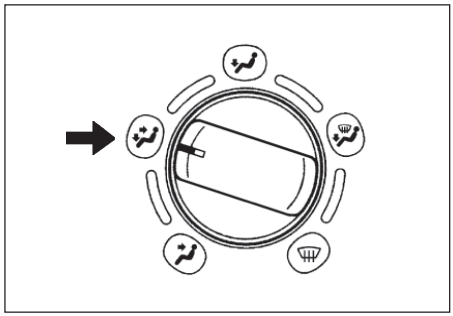


VENTILATION cont.

BI-LEVEL

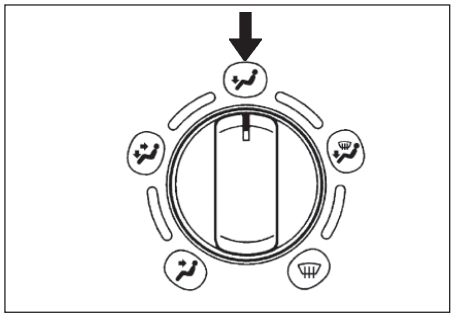
Temperature-controlled air from the floor vents and cooler air from the centre and side vents.

With the temperature selector in the fully cold or fully hot position, air from the floor, centre and side vents is the same temperature.



HEAT

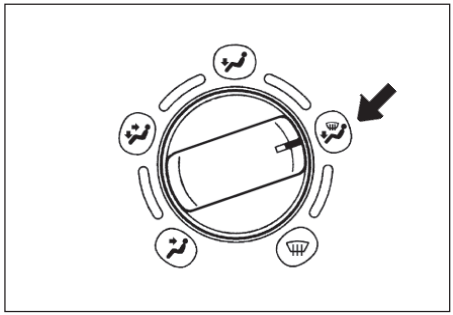
Temperature-controlled air from the floor and side vents.



HEAT AND DEMIST

Temperature-controlled air from:

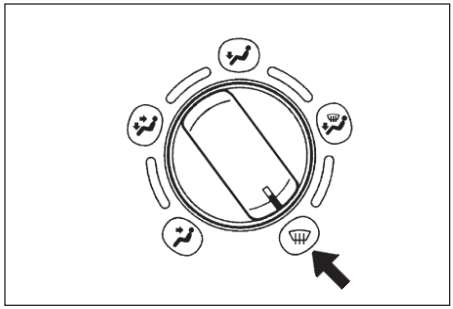
- floor vents
- windscreen demister vents
- side demister vents
- side vents.



DEMIST

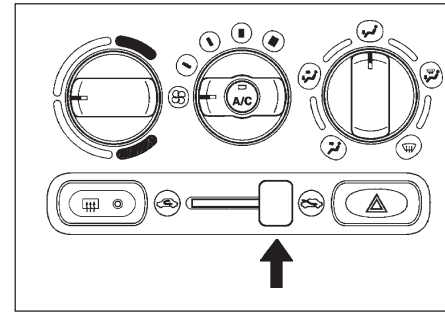
Temperature-controlled air from:

- windscreen demister vents
- side demister vents
- side vents.



VENTILATION cont.

Air intake selector



Slide the switch to select between recirculated inside air (🚗) and outside air (🚗).

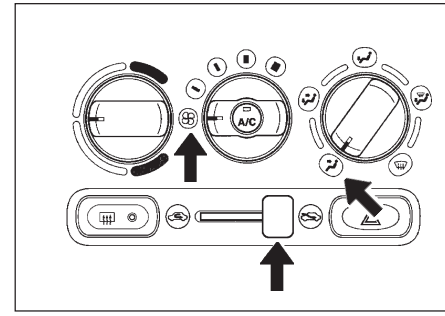
To prevent exhaust fumes and odours from entering your vehicle, use the recirculated air setting. For instance, when following a vehicle along a dusty road.

Close the windows and activate the fan (preferably on high speed) to create positive air pressure in the vehicle. This prevents dust or fumes from being sucked in.

Do not use the recirculated air setting for long periods of time as the interior air becomes stale.

If occupants are smoking, do not use the recirculated air setting. Smoke adheres to the air ducts and causes stale-smelling air.

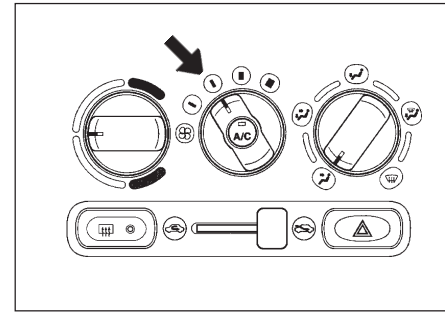
Natural ventilation



- Ventilation (on the vent dial).
- Desired temperature setting.
- Fresh air.
- Fan off.

Fresh air flows through the vehicle as you drive.

Forced ventilation



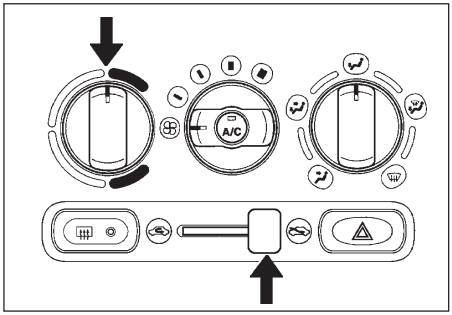
- Ventilation (on the vent dial).
- Desired temperature setting.
- Fresh air.
- Desired fan speed.

HEATING

Normal heating

- Desired temperature setting.
- Fan on (higher speed settings increase heating efficiency).
- Fresh air.

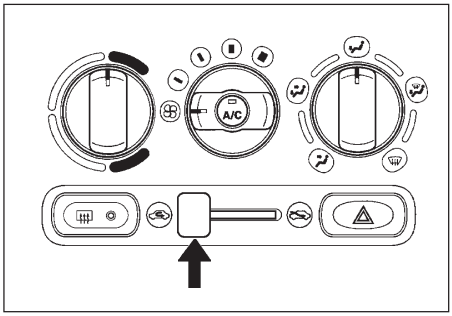
Note: Heat is not available until the engine warms up.



Quick heating

- Desired temperature setting.
- Fan on (higher speed settings increase heating efficiency).
- Recirculated air.

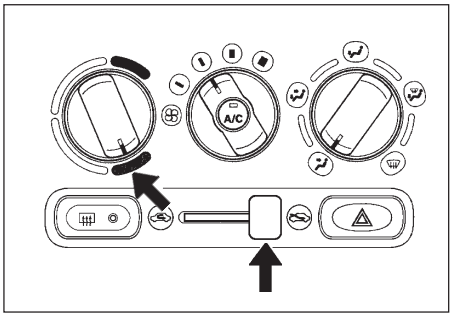
Note: Do not use the recirculated air setting for extended periods of time. The air in the vehicle can become contaminated causing the windows to become misty.



Ventilation without air conditioning

This setting conserves fuel when the air does not require cooling.

- Cold temperature setting.
- Desired fan speed.
- Ventilation (on the vent dial).
- Fresh air.
- All vents open.
- Air conditioning off.



AIR CONDITIONING

Functions

Air conditioning cools the air and removes moisture. If the temperature dial is moved away from extreme cold, the air will be heated before entering the cabin.

While the air conditioner is in operation, you may notice changes in engine speed. This is normal. The air conditioning system operates within preset temperature and pressure ranges, switching on and off to maintain the desired temperature.

It protects itself by switching off automatically when either:

- the outside temperature is below 4°C
- the component temperature is outside the preset range
- the refrigerant pressure is too low.

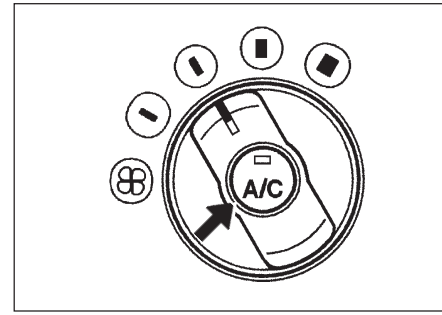
Less operation of the air conditioning system results in better fuel economy. However, run the air conditioning system for 5 to 10 minutes each month, even in winter, to lubricate the system.

Running the air conditioner

With the engine running, switch the air conditioner on:

- Press the **A/C** button, located in the centre of the fan dial.
- Fan on (higher speed settings increase cooling efficiency).
- Air intake selector to either fresh air or recirculated air.

  Recirculated air = faster cooling.

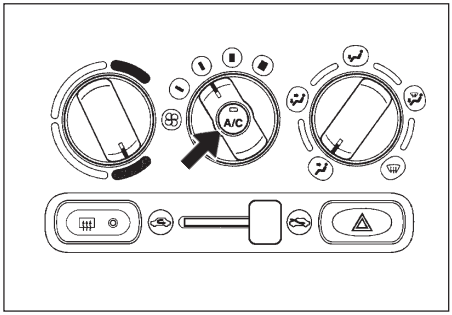


WARNING:

Open at least one vent to ensure that the air conditioner system does not ice up due to lack of air movement.

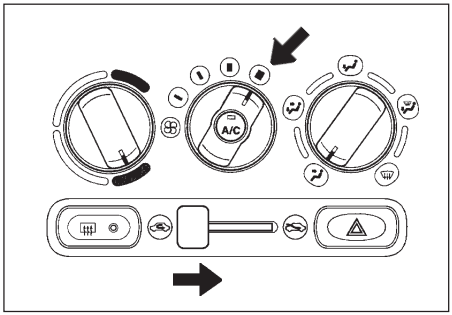
AIR CONDITIONING cont.

Normal cooling



- Air conditioning on.
- Fresh air.
- Cold temperature setting.
- Fan on.
- Ventilation (on the vent dial).
- All vents open.

Maximum cooling



Use this setting in hot weather or when the vehicle has been left in the sun.

Open the windows for a short time to allow the hot air to escape quickly.

- Air conditioning on.
- Cold temperature setting.
- Fan on full.
- Ventilation (on the vent dial).
- All vents open.
- Fresh air for a short time, then recirculated air.

WARNING:

Do not leave recirculation selected for long periods of time as the cabin can become starved of fresh air.

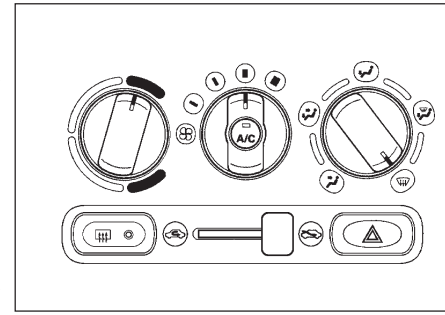
Maintenance

Your vehicle uses the air conditioner refrigerant HFC-134a, commonly called R134a. In the case of repairs or maintenance to the system, ensure only R134a is used in your vehicle.

To help maintain optimum performance and durability of your air conditioner, run it periodically. This circulates the refrigerant oil and helps protect the system components.

DEMISTING

Windscreen and side windows

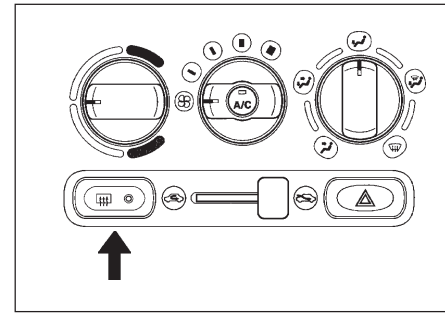


When the windscreen demister is selected, the side demister vents direct air to demist the side windows.

- Air conditioning on.
- Fresh air.
- Fan on. (Preferably high speed).
- Hot temperature setting.
- Demist or heat and demist (on the vent dial).
- Side vents closed.

The air conditioner dehumidifies the air, which can help clear the windows even when blowing heated air.

Rear window



The rear window demister is operational when the ignition is on.

Press the rear demister button to switch the rear window demister on or off.

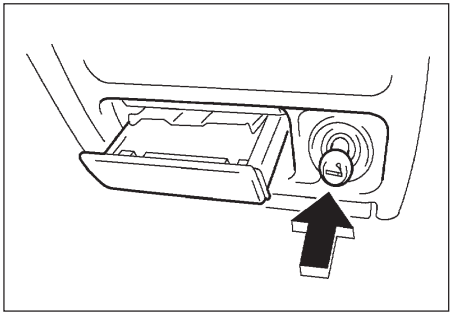
When the demister is on, the indicator in the button illuminates.

WARNING:

The rear window demister uses a large amount of power. Ensure you switch this off once the window has cleared.

CIGARETTE LIGHTER AND ASHTRAY

Cigarette lighter



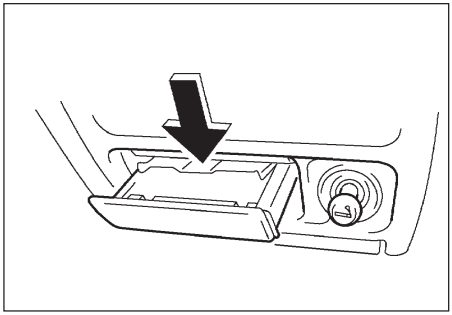
The cigarette lighter is operational when the ignition switch is set to ON or ACC.

Press the cigarette lighter in to activate heating.

The lighter automatically pops up when it is ready to use.

Note: Some accessory power plugs for use in a cigarette lighter socket can damage the inner mechanism due to an incorrectly fitting plug or electrical overload.

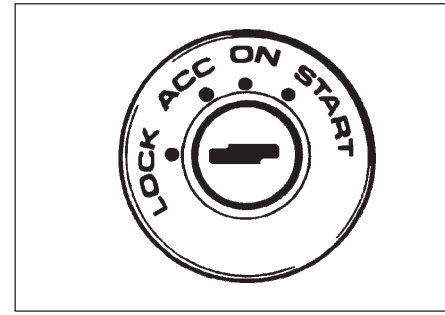
Front ashtray



To remove the ashtray, push down on the metal plate and pull the ashtray completely out of its holder.

IGNITION SWITCH

Ignition switch



The ignition switch has four positions:

LOCK
Remove the key in this position to enable the steering lock.

ACC
This position enables the operation of some accessories.

ON
The normal operating position with all electrical systems enabled.

START
Engine starting position. Release the key from this position immediately the engine starts.

Release the steering lock

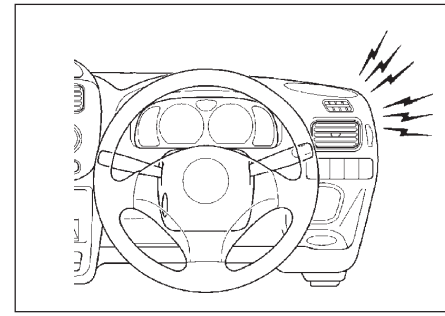
If you experience difficulty turning the ignition key, turn the steering wheel slightly to release the steering lock as you turn the key clockwise.

WARNING:

- **Do not switch the engine off while the vehicle is moving. Power assisted equipment (such as brakes and steering) which are operated by the engine will be rendered ineffective.**
- **Do not remove the ignition key while the vehicle is moving as this enables the steering lock.**

Ignition key reminder

If the key is in the ignition switch when the driver's door is opened, an intermittent warning sounds.

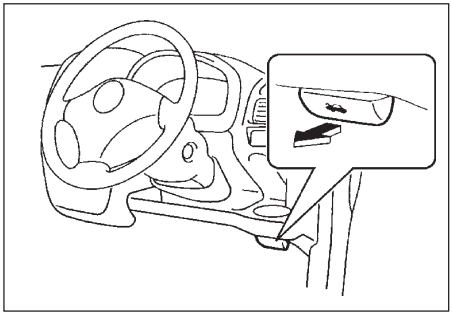


BONNET

Release lever

The bonnet release lever is located inside the vehicle, below the driver's drink holder.

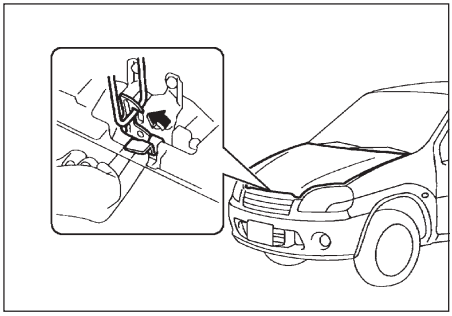
Pull the lever towards you to release the bonnet. A safety catch prevents the bonnet from lifting fully.



Safety catch

The safety catch is located under the front of the bonnet.

To open the bonnet completely, lift the safety catch tab as illustrated while lifting the bonnet.

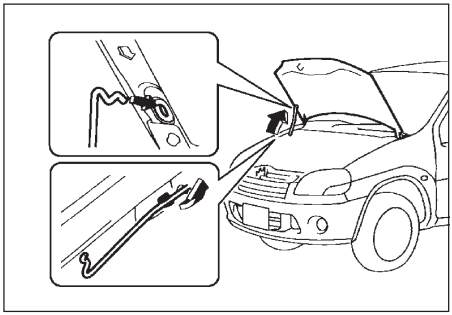


Support rod

Lift the bonnet high enough to insert the support rod into the slot provided.

Close the bonnet

To close the bonnet, first press the support rod into the slot provided, then lower the bonnet gradually most of the way, before dropping it to close by its own weight.



WARNING:

Before driving, ensure that the support rod is fixed in its rest position, the bonnet is fully closed and the bonnet release lever (inside the vehicle) has returned to its original position.

CHAPTER 2

Locks

Page

2-2 Keys and lock buttons

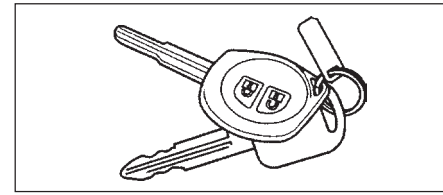
2-3 Door locks

2-4 Tailgate and remote control

2-5 Immobiliser

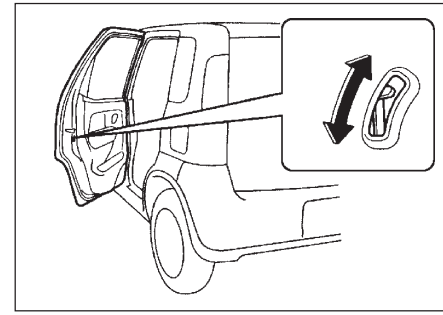
KEYS AND LOCK BUTTONS

Keys



Your vehicle comes with immobiliser ignition keys. A key identification number is provided with the keys. Keep this number in a safe place away from your vehicle in case you need to have new keys cut. Refer to Immobiliser in this chapter.

Child safety rear door locks



Child safety locks help prevent rear doors from being opened from inside the vehicle.

The switches are provided on the opening edge of the rear doors, accessible when the door is open.

When the switch is in the up position, the inside door handle functions normally.

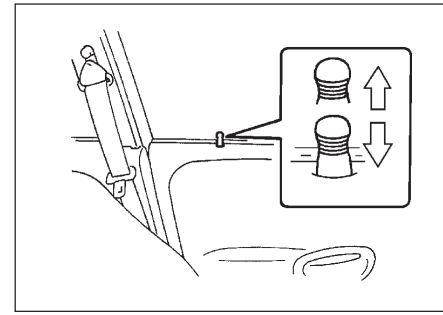
When the switch is in the down position, the inside door handle is disabled.

When the child safety lock is applied, the rear door can be opened from outside of the vehicle, provided the door is unlocked.

WARNING:

After applying the child safety lock, ensure that it is operating correctly.

Lock the doors from inside



Press the inside lock button down to lock the door. Lift the button to unlock the door.

Press the driver's lock button to simultaneously lock all doors and the tailgate.

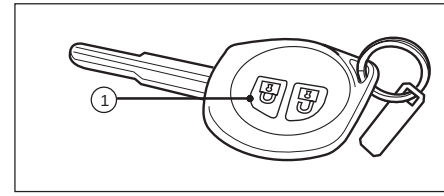
DOOR LOCKS

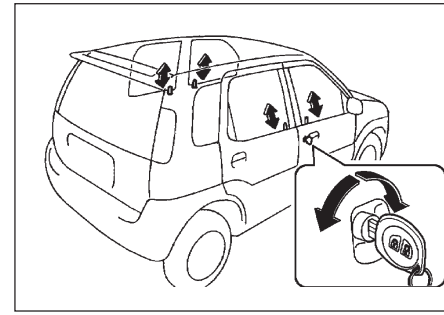
Locking the vehicle

To lock all of the doors and the tailgate from outside of the vehicle, either:

- press the remote control lock button (1) (the turn signal lights flash once)
- turn the key in the driver's door.

To lock a passenger door individually, press the lock knob down and hold the exterior door handle up as you close the door.





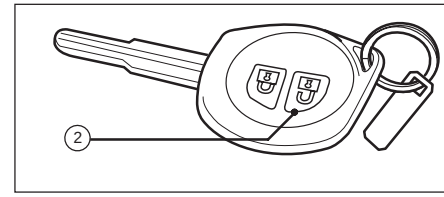
Unlocking the vehicle

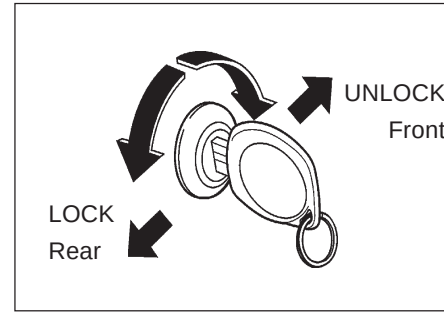
To unlock all of the doors, direct the remote control towards the vehicle and press the unlock button (2).

When you unlock the doors with the remote control, the turn signal lights flash twice and the interior lighting illuminates for several seconds (when set to DOOR).

The doors automatically lock again if a door is not opened within approximately 30 seconds.

Unlock a passenger door individually from the inside by lifting the door lock knob.





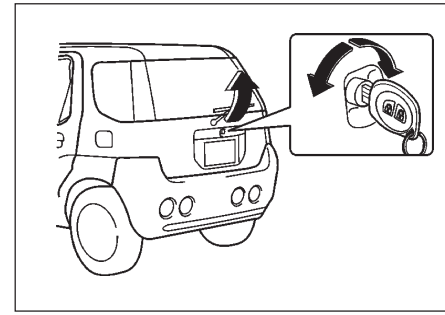
WARNING:

The remote control will not operate the door locks when the key is in the ignition or a door is not fully closed.

TAILGATE AND REMOTE CONTROL

Tailgate

Lock or unlock the tailgate using the remote control or by inserting and turning the key in the tailgate lock.



WARNING:

- **Ensure the tailgate is fully closed to avoid the entry of exhaust gases.**
- **Do not use the key to lift the tailgate. The key might break in the lock.**

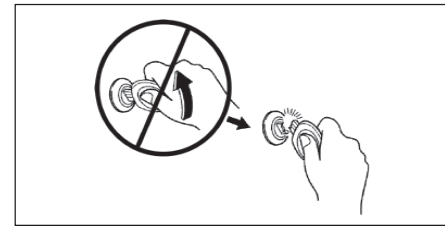
Remote control

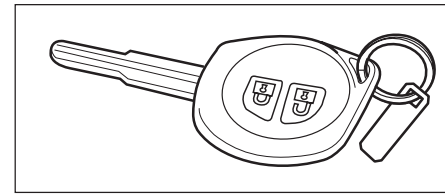
The remote control is powered by a battery inside the key head.

A weakening remote control battery is indicated by a progressive loss of range with the remote control.

Metallic film window tinting also reduces the range of the remote control.

Treat the remote control with care and do not operate it unnecessarily.





WARNING:

The remote control transmitter is a sensitive device. Do not expose it to impacts, moisture or high temperatures.

If you lose your remote control, contact a Holden Retailer for a replacement and to have the lost one deactivated.

Operating distance

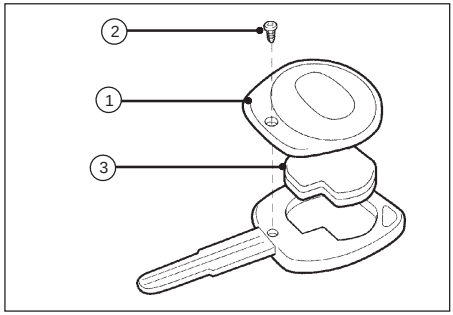
The maximum operating distance of your remote control can vary depending on the surroundings, such as:

- radio towers
- CB radios
- other transmitting devices.

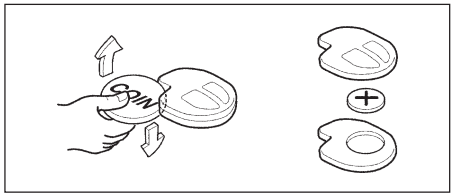
REMOTE CONTROL AND IMMOBILISER

Replacing the battery

Use a lithium disc type battery, specification CR1616.



- Remove the battery cover (1) retaining screw (2).
- Lift out the transmitter (3).



- Open the transmitter using a suitable coin or screwdriver in the slot provided, as illustrated.
- Replace the battery.

  The positive side of the battery faces the **+** mark on the transmitter.
- Close the transmitter.
- Install the transmitter into the housing.
- Fit the battery cover.
- Install and tighten the screw.
- Check the operation of the remote control.
- If the remote control functions correctly, dispose of the used battery properly.

WARNING:

Keep lithium batteries away from children and pets. Swallowing a lithium battery can cause serious internal injury. If swallowed, seek immediate medical assistance.

Immobiliser

The immobiliser system electronically disables the engine starting system.

An electronic code is programmed into the ignition key, which is communicated to the vehicle when the ignition is switched on. The correct code disarms the immobiliser.

If the immobiliser indicator blinks while the ignition is on, there may be a fault with your key or the immobiliser system. Consult your Holden Retailer.

Immobiliser keys from other vehicles can interfere with your vehicle. Keep those keys away from the ignition switch when using your vehicle.

Refer to your Holden Retailer if you require extra keys. The vehicle must be programmed with the correct key identification code. If you lose a key, have the associated code removed from the on-board module for security reasons. The code for replacement keys must be activated before the keys are operational.

CHAPTER 3

Know your vehicle

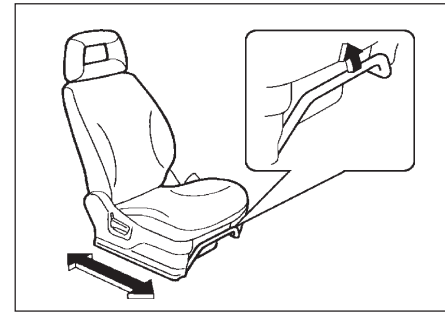
Page	
3-2	Front seat adjustment
3-3	Head restraint and lumbar support adjustment
3-4	Rear seat adjustment
3-5	Seat belts
3-9	Child restraints
3-12	Mirrors
3-13	Electric windows
3-14	Interior lamps
3-15	Assist grips
3-16	Brake pedal
3-17	Park brake and steering
3-18	Clutch pedal
3-19	Roof rails and underseat tray
3-20	Luggage compartment cover

FRONT SEAT ADJUSTMENT

Forward / rearward

Adjust a front seat as follows:

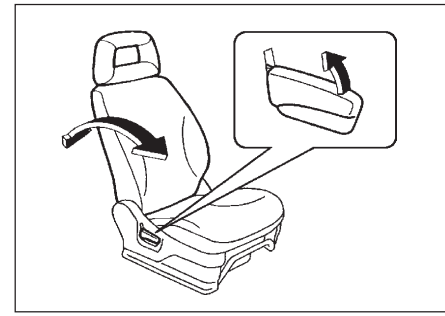
1. Lift the lever at the front of the seat.
2. Slide the seat forward or backward as required.
3. Release the lever.
4. Attempt to move the seat to ensure that the catch has locked in position.



Recline / incline

Adjust the seat-back angle as follows:

1. Lift the lever on the door-side of the seat.
2. Adjust the seat-back to the required angle.
3. Release the lever.
4. Attempt to move the seat-back to ensure that the catch has locked in position.



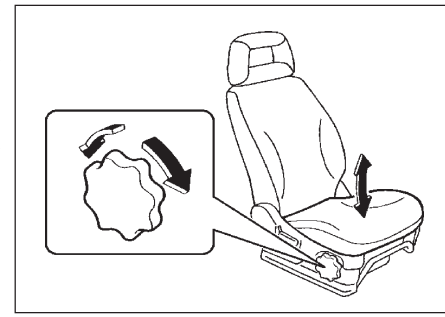
WARNING:

- **Do not attempt to adjust the driver's seat while driving the vehicle.**
- **To avoid reducing the effect of seat belts, use the reclining seats in no more than a semi-reclined position when the vehicle is moving. Use the fully reclined position only when the vehicle is stationary.**

Height adjustment

The driver's seat is equipped with a height adjustment knob on the door side of the seat.

Rotate the knob to raise or lower the seat as required.



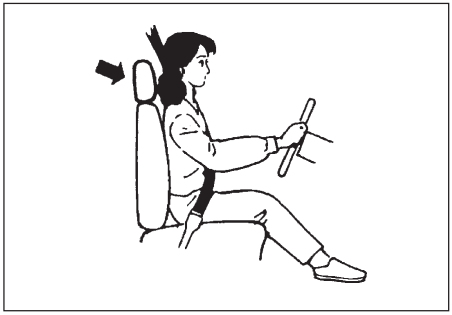
HEAD RESTRAINT AND LUMBAR SUPPORT ADJUSTMENT

Note: This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in an accident involving your vehicle.

Head restraint adjustment

WARNING:

- **Do not drive the vehicle with the head restraints removed.**
- **Do not attempt to adjust the head restraint whilst driving.**

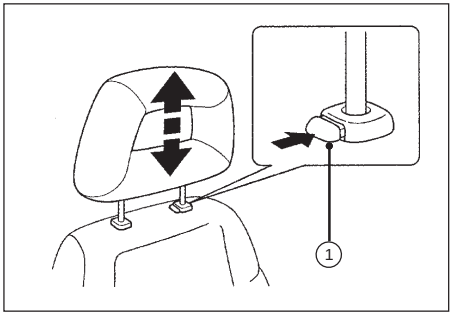


Raise the head restraint by lifting it. Ensure it clicks into the nearest setting.

Note: Adjust the head restraint so that the upper edge of the aligns with the top of the occupant's head.

Lower the head restraint as follows:

1. Press and hold the release button (1).
2. Lower the restraint as required.
3. Release the button.
4. Adjust the restraint slightly up or down until it clicks into the nearest setting.

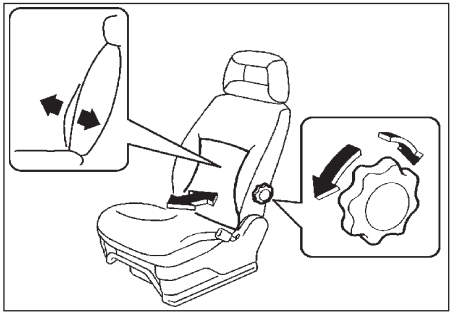


Head restraint removal

Press the release button and lift the head restraint completely out.

Lumbar support adjuster lever

Adjust the lumbar support to your comfort by rotating the adjuster lever.



REAR SEAT ADJUSTMENT

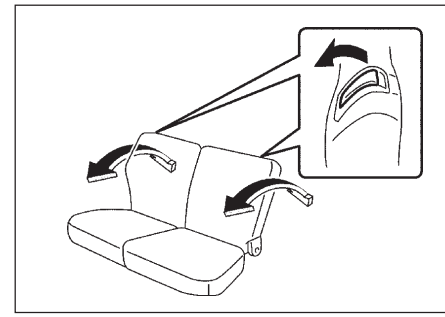
WARNING:

To avoid injury from passing traffic, do not stand on the road side of the vehicle when converting the rear seat.

Recline / incline

Adjust the angle of the back seat as follows:

1. Lift the lever on the top of the seat.
2. Adjust the seat-back angle to one of the lock settings.
3. Release the lever.
4. Attempt to move the seat-back to ensure it has locked into position.



WARNING:

Seat belts are designed to offer maximum protection when seat-backs are in the upright position.

For transporting long objects

Fold a rear seat fully forward as described previously; you may need to tilt the seat in front forward to do this.

The other seat can continue to be used for a passenger.

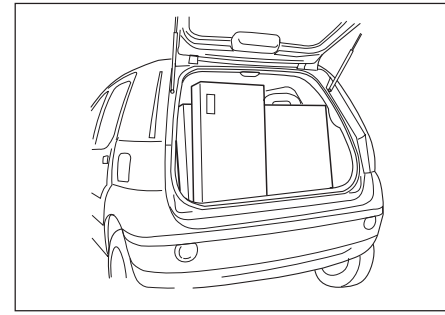
Fold down both rear seats for maximum space.

Repositioning the rear seats

When repositioning the rear seats make sure that the seat belt is not trapped and that the seat-back is fully locked into position.

Tall objects

To transport tall objects, unhook the luggage compartment cover at the tailgate and remove the cover from the side guides.



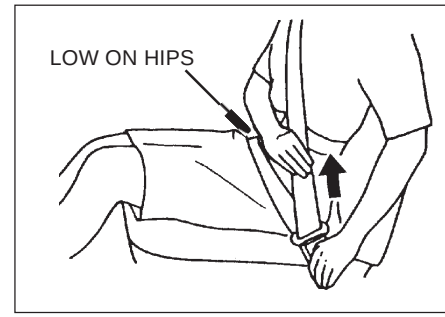
SEAT BELTS

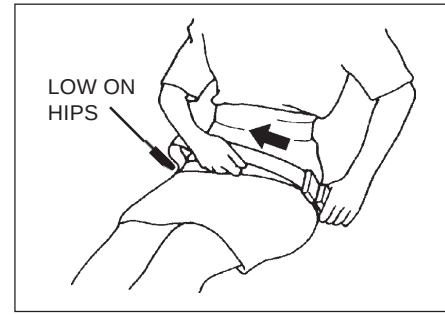
Australian law requires that the driver and all passengers be properly restrained at all times with the seat belts provided in the vehicle. Failure to do so could increase the chance of injury and / or the severity of injury in accidents.

You must wear a seat belt whether or not an airbag is mounted at your seating position.

WARNING:

- **Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable. Avoid wearing the lap section of the belt across the abdominal area.**
- **Adjust seat belts as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt greatly reduces the protection afforded to the wearer.**
- **Avoid contaminating the webbing with polishes, oil and chemicals and particularly battery acid. Cleaning can be safely carried out using water and mild soap. Replace the belt if the webbing becomes frayed, contaminated or damaged.**





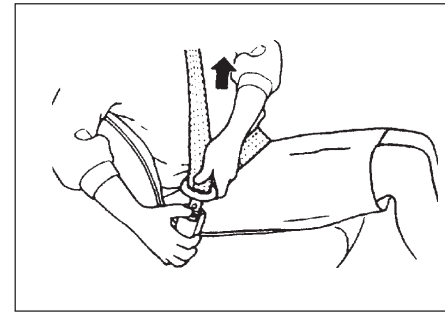
- **It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious. Do not wear a seat belt with the straps twisted.**
- **Each seat belt assembly must only be used by one occupant. Do not put a belt around a child being carried on the occupant's lap.**
- **No modification or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.**
- **The positioning of the tongue restrictor must never interfere with or stop the belt from fully retracting.**

Seat belt will not lengthen?

The rear seat belts feature a child restraint locking mechanism. When activated, this allows the belt only to retract. Refer to Child Restraints in this chapter.

SEAT BELTS cont.

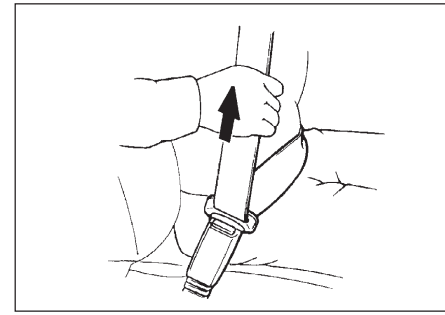
Lap-sash belts



FIT A LAP-SASH SEAT BELT

1. Pull the belt across your body and insert the metal tongue into the buckle (listen for a click).
2. Settle the belt at your hips.
3. Tension the belt by tugging the sash upward.
4. Allow extra belt length to retract.

Note: Wear the lap section as low as possible on your hips, not on your waist. Make sure the sash and lap sections of the seat belt are free from twists and fit firmly.

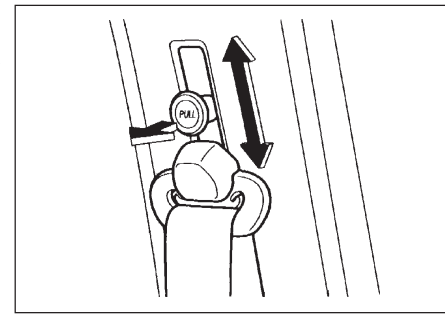


The emergency-locking retractor allows you to move freely while the vehicle is travelling normally. The belt locks immediately in the following situations:

- Fast braking.
- Impact with a solid object.
- Quick movement by the wearer.

UNDO A LAP-SASH SEAT BELT

Press the release button on the buckle and allow the belt to fully retract without it twisting.



Seat belt height adjust

The front seat belts are equipped with adjustable upper anchorage points.

Adjust the height so that the belt passes over the centre of the shoulder and rests against the shoulder. It must not pass over the neck or upper arm.

1. Pull the lock knob outwards.
2. Adjust the height as required.
3. Release the lock knob.
4. Ensure that the anchorage point is securely locked into position.

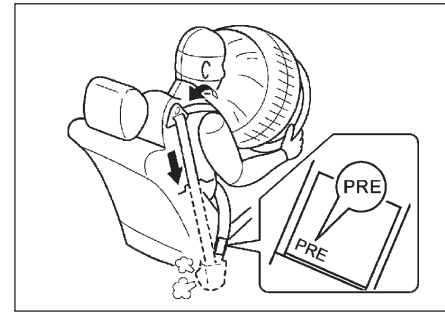
Short people should select a low belt guide position and tall people a higher one.

WARNING:

Do not adjust the seat belt height while driving.

SEAT BELTS cont.

Seat belt pretensioners



The front seat belt system incorporates one-use-only belt pretensioners. In the event of a moderate to severe head-on collision, the belt buckles are pulled downwards, instantly tightening the belts.

The seat belt pretensioners are not designed to activate in rear impacts, side impacts, rollovers or minor head-on collisions.

During activation, some noise and smoke may be released. These conditions are not harmful and do not indicate a fire in the vehicle.

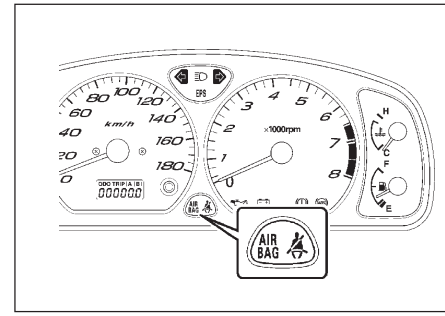
Note: Although the seat belt may remain operational apart from this feature, the entire system must be replaced by a Holden Retailer.

WARNING:

The belt pretensioners may trigger suddenly and cause injury if they are handled incorrectly. Therefore, front seats and belts should only be removed, disposed of and replaced by a Holden Retailer.

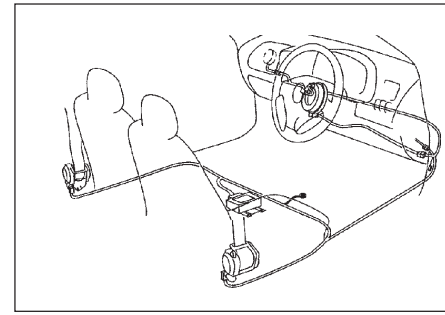
The AIR BAG indicator on the instrument panel may indicate a system fault in three ways:

- It does not flash or illuminate briefly when the ignition is switched on.
- It remains illuminated for more than 10 seconds.
- It illuminates during driving.



Note: If a system fault is indicated, the pretensioner system or the airbag system may not be fully functional. Have both systems inspected by a Holden Retailer as soon as possible.

Servicing

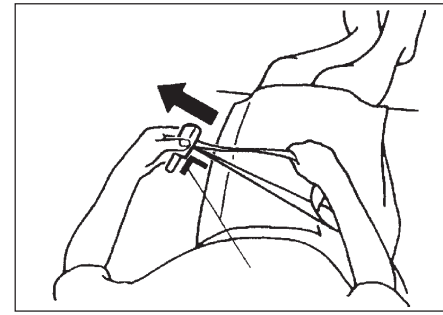


Service work on or around the pretensioner system components must be performed only by an authorised Holden Retailer.

Improper service could result in unintended activation of pretensioners, rendering the pretensioner inoperative and could increase the risk of personal injury.

SEAT BELTS cont.

Lap seat belt



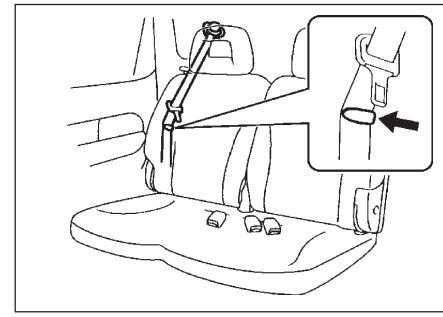
Put on a lap seat belt as follows:

1. Pull the tongue fitting across your lap.
2. Press the tongue into the buckle ensuring it clicks into position.
3. Pull the free end of the belt, adjusting the belt for a firm, but comfortable fit.

LENGTHEN THE LAP SEAT BELT

1. Release the tongue from the buckle unit.
2. Pull the adjuster, held at right angles to the belt.
3. Insert the tongue into the buckle and tighten if necessary.

Seat belt hangers



The outer rear seats are equipped with a seat belt hanger to retain the buckle when the seat belt is not in use.

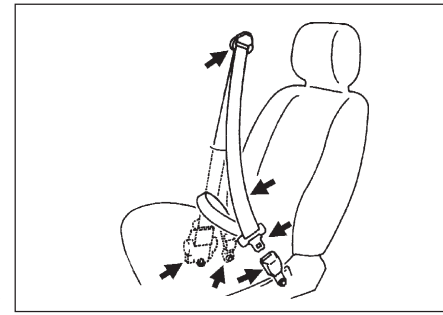
When you adjust a seat position, place the buckle in the hanger to avoid accidental damage to the seat belt.

Seat belt inspection

Periodically inspect the seat belts to ensure they work properly and are not damaged.

Check:

- webbing
- buckles
- latch plates
- retractors
- anchorages
- guide loops.



Replace any seat belts that are damaged or do not function correctly.

Consult your Holden Retailer if you need assistance with this inspection or for seat belt replacement.

CHILD RESTRAINTS

Note: Always ensure that the seat belt fits firmly around the child restraint. If a child cannot see out of the window, do not raise the child by means of an ordinary cushion, it will not stay in place in a collision and the child can slip out of the straps and become entangled.

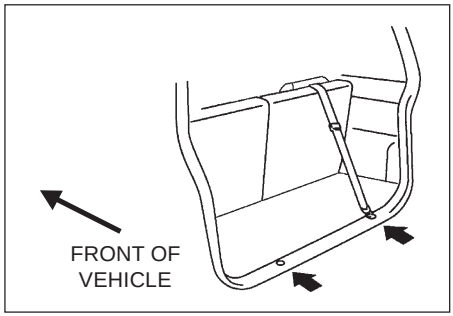
WARNING:

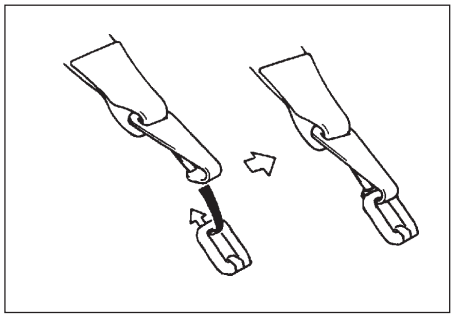
- **Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle.**
- **Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchor.**
- **Only Standards Australia approved child restraints and harnesses should be used. You should only purchase a child restraint which carries the appropriate Standards Australia sticker of approval.**

Anchorage locations

Two anchorage hooks are located in the luggage compartment near the rear door.

Your vehicle is designed to accommodate a child restraint on each rear seat. When using a child restraint, carefully follow the relevant installation instructions supplied with the restraint.





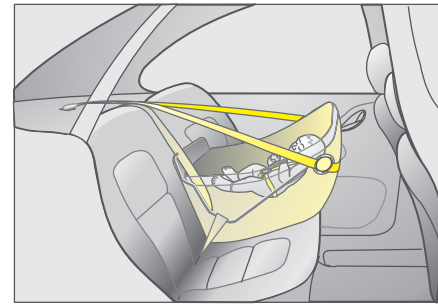
WHICH TYPE OF CHILD RESTRAINT FOR YOUR CHILD?

Children should be restrained at all times and fitted with a child restraint appropriate to their size when travelling in a vehicle. Following are some guidelines about selecting the appropriate restraint for your child.

Infants

Rearward facing infant capsule		
Weight	**Height**	**Approx. Age**
Less than 9 kg	Less than 70 cm	Up to 6 mths

Designed so that in the event of a collision, impact forces will be evenly spread over the baby's back, with minimal jarring to the vulnerable head and neck area.

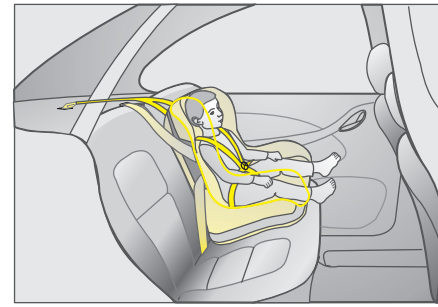


Rearward facing infant capsule

Young children

Forward facing child seat		
Weight	**Height**	**Approx. Age**
8 to 18 kg	70 to 100 cm	6 mths to 4 yrs

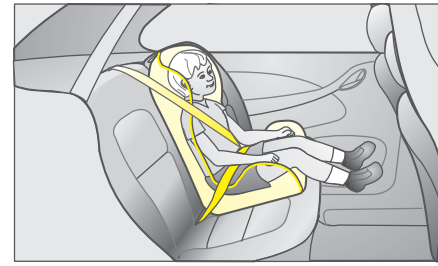
For use when the child is able to sit and easily hold his or her head upright. It is also possible to purchase convertible seats which can be used as a rearward facing child restraint or converted to a forward facing child seat.



Forward facing child seat

Booster seat with lap / sash seat belt		
Weight	**Height**	**Approx. Age**
–	More than 100 cm	4 to 10 yrs

When children outgrow a typical forward-facing child seat but they are still too small for lap-sash seat belts. A booster seat raises the child so that the knees bend comfortably, the lap-sash seat belt is correctly positioned and the child can see out the window. A rigid booster seat with a back, side wings and sash guide gives the best protection. In assessing the range of children who would benefit from booster seats, height is a better indicator than age or weight.

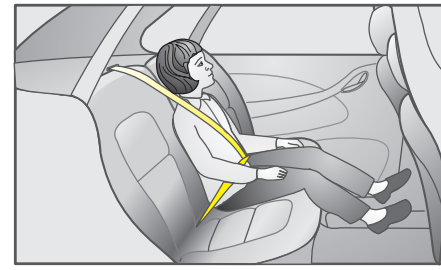


Booster seat with lap-sash seat belt

Older children

A child should use a normal lap-sash seat belt only when:

- he / she can sit against the back of the rear seat with knees bent comfortably at the edge of the seat,
- lap belt rests low and snug across the hips – not across the stomach,
- sash belt is centred on shoulder and chest,
- he / she is able to stay seated like this for the entire trip.



Adult lap-sash seat belt

CHILD RESTRAINTS cont.

Child restraint locking mechanism

The seatbelts for the rear seats have an Automatic Locking Ratchet (ALR). Once this mechanism is activated, it allows the belt only to retract.

To activate the ALR mechanism, extend the seat belt to its maximum length. To deactivate the ALR mechanism, let the seat belt fully retract.

This function may be useful as an additional means of locating a child restraint when used in conjunction with the approved child restraint anchorage point. That is, it can assist in fixing the child restraint into position.

Note: It is always better to install a child restraint in the rear seat.

WARNING – EXTREME HAZARD:

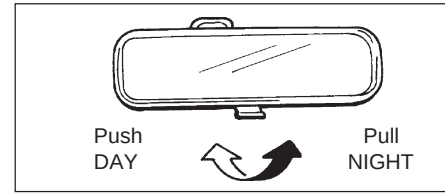
Do not use a rearward facing child restraint on a seat protected by an airbag in front of it. The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.

MIRRORS

Internal rear view mirror

Grasp the mirror and swivel it to adjust it as required.

Toggle the lever on the lower edge of the mirror towards you to reduce glare.

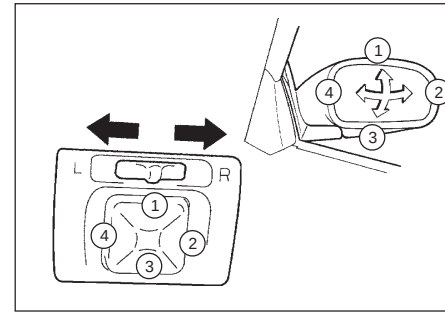


Electric exterior mirrors

Switches for the electric mirrors are located in the dashboard, to the right of the steering wheel.

When the ignition is switched to ACC or ON, adjust the mirrors as follows:

1. Move the selector switch to left (L) or right (R) mirror.
2. Press the edge of the four way switch to tilt the mirror in the corresponding direction, as illustrated.
3. Move the selector switch to the central position to prevent unintentional adjustment.



WARNING:

The passenger-side mirror is convex, making objects appear further away than they actually are.

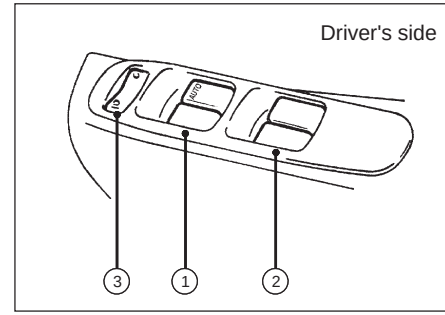
ELECTRIC WINDOWS

Controls

The driver's door switch panel includes switches for the front windows (1), the rear windows (2) and a lock switch (3).

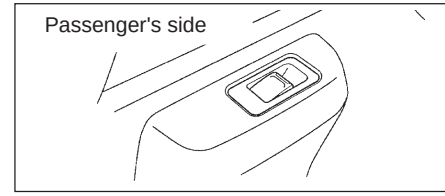
Individual switches are located in the passenger doors.

The electric windows are operational with the ignition on.



WARNING:

When leaving the vehicle, remove the key from the ignition. This avoids injury to children from incorrect use of electric windows.

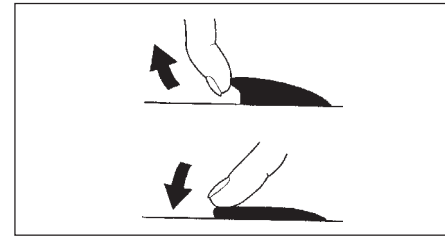


Closing windows

Lift the front of the switch.

Opening windows

Press the front of the switch.



AUTO-DOWN

The driver's window auto-down feature opens the window fully with one touch of the window switch.

Press the switch fully down and release it. To stop the window during automatic opening, briefly lift the switch.

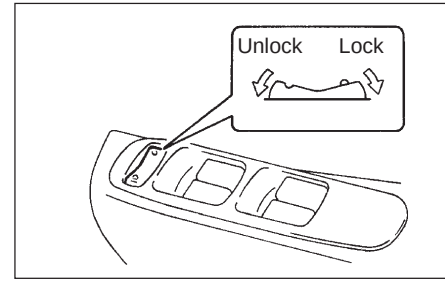
Note: The rear door windows are not designed to open fully.

WARNING:

To avoid injury, ensure that the window is clear of all body parts before closing the glass.

Lock switch

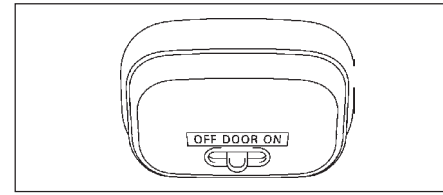
Engage the lock to isolate the rear windows. The windows can be operated only using the driver's switches.



INTERIOR LAMPS

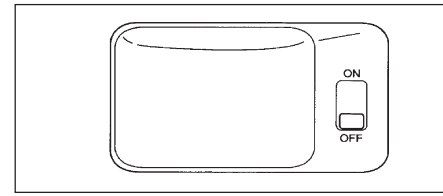
Front interior lamps

The front interior lamps illuminate when the the switch is set to DOOR and a door is open or when the lamp is switched on.



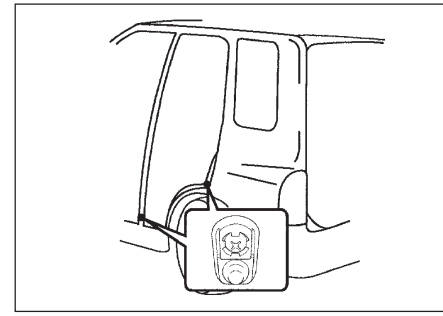
Interior lamps

The rear interior lamps illuminate when the the switch is set to DOOR and a door is open or when the lamp is switched on.



Door switches

Switches in the door openings activate the interior lamps.

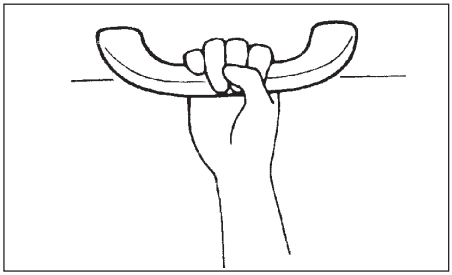


ASSIST GRIPS

Assist grips

Assist grips are provided for your convenience.

You should not hang items from the assist grips that obstruct the driver's vision or that could be thrown in an accident.



BRAKE PEDAL

Your vehicle is equipped with front disc brakes and rear drum brakes. The brake system is self-adjusting.

Pedal adjustment

Have the brake system inspected by a Holden Retailer if any of the following occur:

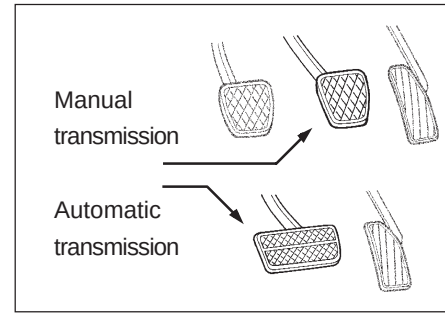
- Pedal to floor distance becomes less than 140 mm.
- Brake pedal feels spongy.
- Braking performance is poor.
- The brakes drag when released.
- Excessive noise occurs when braking.
- Pedal pulsates when braking.
- Brakes do not apply uniformly to all wheels.

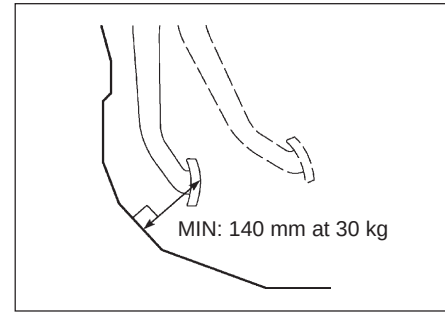
Check the pedal to floor distance

1. Park on level ground and apply the park brake.
2. Ensure the transmission is in neutral (manual transmission) P (Park: automatic transmission).
3. Run the engine at idle.
4. Press the pedal with moderate force.
5. Measure the distance between the brake pedal and floor.

When measuring the distance between the brake pedal and floor, do not include floor mats, rubber coverings etc.

Refer to Chapter 4 for ABS information.



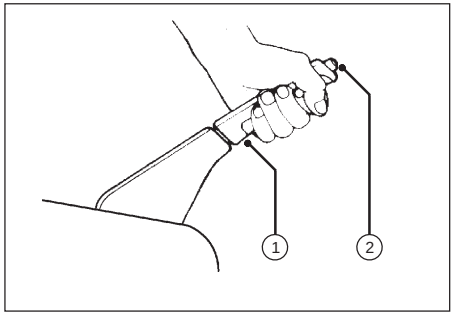


PARK BRAKE AND STEERING

Park brake

Release the park brake:

1. Pull the lever (1) slightly upwards.
2. Press and hold the ratchet button (2).
3. Lower the lever fully down.
4. Release the ratchet button.



WARNING:

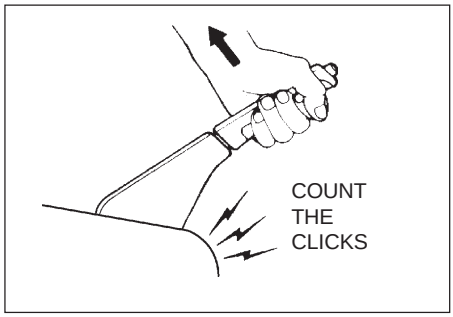
Never drive the vehicle with the park brake applied.

Park brake adjustment

The park brake adjustment changes as the drum brake shoes wear away. Check the adjustment by counting the number of clicks to fully apply the park brake.

Four to 10 clicks is normal. This must firmly lock the rear wheels.

For brake adjustment, consult a Holden Retailer.



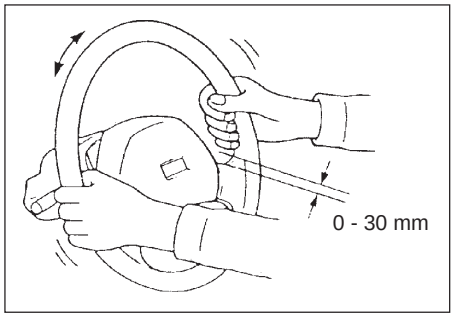
Steering

The steering wheel should rotate easily and smoothly without rattling. Check this by rotating the steering wheel fully clockwise and fully anticlockwise while driving very slowly in a safe, open area.

FREE-PLAY

Check the free-play in the steering wheel by rotating it slightly from left to right and measuring the distance of free movement (movement with no resistance).

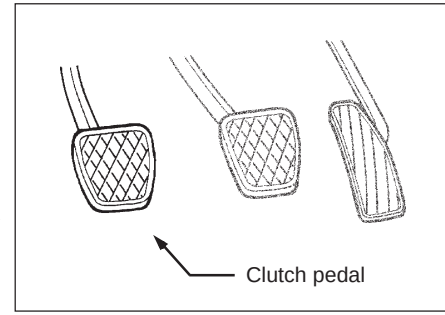
The free-play should be between 0 and 30 mm. If the free-play is more than 30 mm or you suspect a fault, consult a Holden Retailer as soon as possible.



CLUTCH PEDAL

Only vehicles with manual transmission are equipped with a clutch pedal.

Press the clutch pedal to disengage the clutch when you start the engine, stop the vehicle or move the transmission shift lever.



Pedal adjustment

Have the clutch operation inspected by a Holden Retailer if any of the following occur:

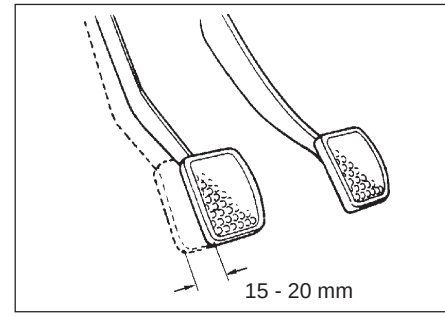
- Pedal movement is too much or too little.
- The clutch drags with the pedal fully pressed.
- The clutch slips with the pedal fully released. (Engine noise may vary unusually.)

Check the pedal movement

1. Press the clutch pedal with your hand until you feel increased resistance.
2. Measure the distance the pedal moved.

   The movement in the clutch pedal should be between 15 and 20 mm.

   Consult your Holden Retailer if the pedal movement measurement is outside this range.

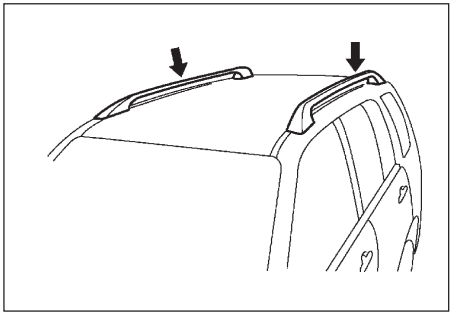


WARNING:

Do not drive with your foot resting on the clutch pedal. This can cause excessive clutch wear, clutch damage and reduce engine braking efficiency.

ROOF RAILS AND UNDERSEAT TRAY

Roof rails



Observe the following precautions:

- Do not mount cargo directly onto the roof panel.
- Do not exceed the load capacity of the roof rails.

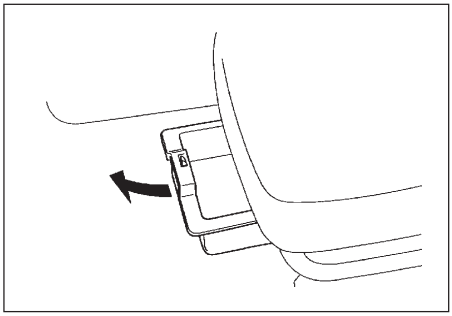
  Refer to Chapter 10.
- Do not exceed the Gross Vehicle Mass (GVM) rating.

  Refer to Chapters 8 and 10.
- Load cargo onto the roof rails securely, with the heaviest items at the bottom and as evenly distributed as possible.
- Do not carry items that hang over the bumpers or the sides of the vehicle or items that block your view.
- Secure long items to both the front and rear of the vehicle.
- Ensure that the roof rails are securely installed and free from damage.

WARNING:

Periodically check that your cargo is securely fastened to the roof rails and drive at a safe speed avoiding abrupt manoeuvres.

Underseat tray



A storage tray is located under the front passenger seat.

Pull the lever forward and up to draw out the tray.

Close the tray before driving.

LUGGAGE COMPARTMENT COVER

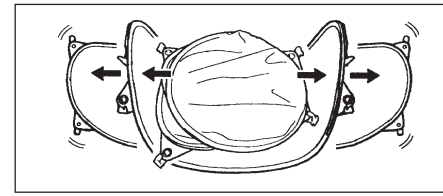
The luggage compartment cover conceals cargo in the rear compartment.

Install the cover

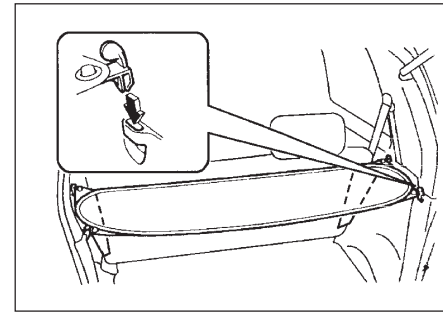
Install the cover as follows:

1. Allow the spring action to open the cover.

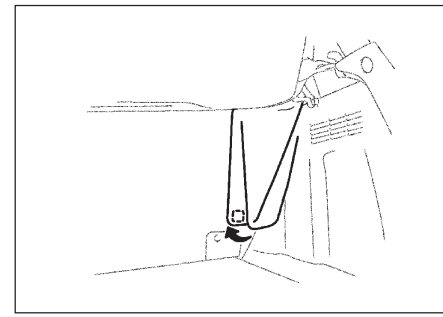
   Note: This can happen suddenly.



2. Install the four clips into the four retainers as illustrated.



3. Fasten the lower extensions to the rear seat-backs.



Remove the cover

1. Detach the lower extensions from the rear seat-backs.
2. Release each of the four clips from their respective retainers.
3. Lift the cover out from the rear of the vehicle.
4. Fold and stow the cover, as follows.

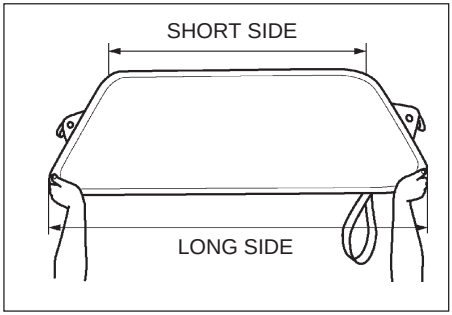
WARNING:

Do not leave loose articles or luggage in the passenger compartment. Whenever possible, firmly secure loads stowed in the luggage compartment. Items could obstruct the driver's vision or be thrown in an accident, causing injury.

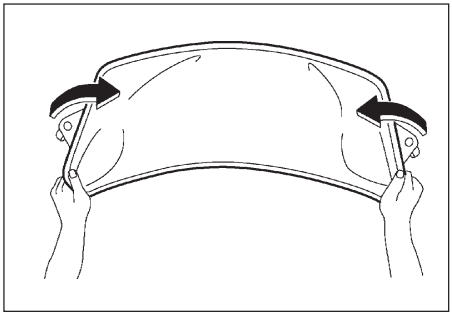
LUGGAGE COMPARTMENT COVER cont.

Fold the cover

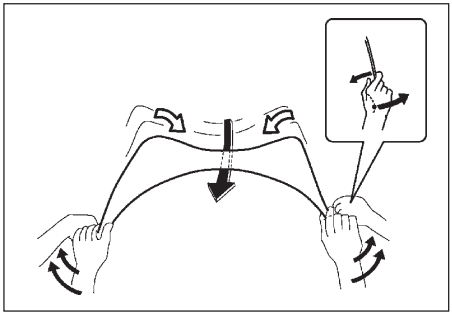
1. Grip both ends of the cover as illustrated.



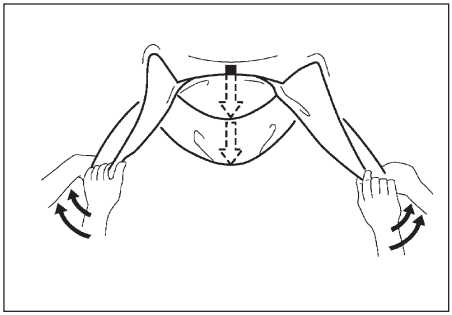
2. Bend the ends towards the centre.



3. Bend the cover further by twisting your wrists as illustrated.
4. Continue to press the cover frame outward with your thumbs and inward with your forefingers.



The short side of the cover should come toward you, passing under the long side.

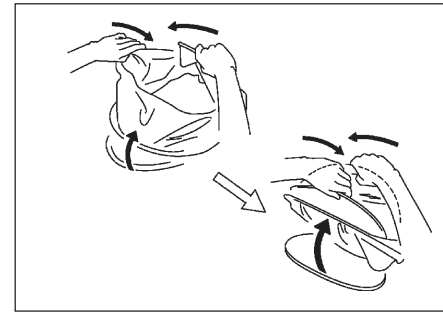


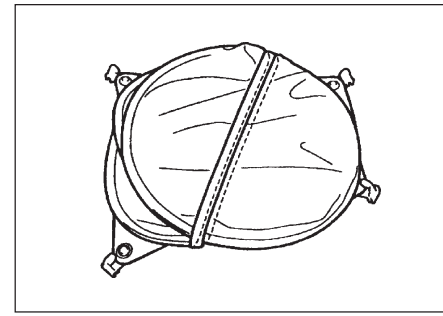
LUGGAGE COMPARTMENT COVER cont.

5. Fully fold the cover so that each end becomes ring shaped.

   The short side of the cover now also becomes ring shaped.

6. Bind the cover securely to avoid unintentional opening.





Notes

CHAPTER 4

Driving

Page

4-2 Engine starting

4-3 Safety

4-4 Automatic transmission

4-6 Manual transmission

4-7 Snow chains and driving precautions

4-8 ABS (Anti-lock Braking System)

ENGINE STARTING

Start the engine as follows:

1. Apply the park brake firmly and release it only after you have started the engine and are ready to drive off.
2. **Manual**: Press the clutch pedal and shift the gear lever to the neutral position.

   Automatic: Move the shift lever to **P** (park) or **N** (neutral).
3. Keep your foot off the accelerator pedal prior to and during starting. Pressing the accelerator pedal increases cranking time. It does not help the engine to start.

   Follow this procedure for both cold and hot starting.
4. Turn the key to the start position only until the engine starts. Release the key.

If the engine does not start after 15 seconds of cranking, wait about 15 seconds before trying again. This allows the starter motor to cool.

If the engine will not start and the Check Engine warning indicator flashes, switch the ignition off, wait for at least 2 seconds then try again.

Contact Roadside Assist if the engine still will not start. Refer to Chapter 9.

Running-in (the first 1000 km especially)

The future performance and reliability of the engine depends largely on the care and restraint that you exercise during running in.

After starting it, do not race the engine; gradually warm it up.

Start off from a standstill slowly.

Drive your vehicle at various speeds. This improves the bedding-in of parts.

Note: Do not use full throttle and do not allow the engine to labour.

Make good use of all of the gears. Press the accelerator only up to 75 percent of full travel in all gears and drive ranges.

Avoid hard braking during the first 400 km (and after new brake pads have been fitted).

Switching off a hot engine

If the engine temperature is very high, (for example, after driving in hilly areas) then allow the engine to idle for about 2 minutes before switching it off. This helps prevent heat accumulation.

When the engine is hot, the cooling fan may remain on for several minutes after the ignition is switched off.

SAFETY

Before entering the vehicle

1. Check that the windows, mirrors and lamps are clean and not obstructed.
2. Check that the tyres are correctly inflated.
3. Check that there are no fluid leaks (other than air conditioner drainage).

Before driving off

1. Be sure that all doors are secured.
2. Position your seat for comfortable and safe driving.
3. Adjust the rear vision mirrors as required.
4. Fasten seat belts.
5. Check that the appropriate warning indicators illuminate when the ignition is switched on. Refer to Chapter 1.
6. Check the brake pedal and park brake lever.

   Automatic: With the ignition on, press the brake pedal before moving the shift lever lever out of **P** (park).

Parking

1. Apply the park brake.
2. **Automatic:** Move the shift lever to **P**.
   Manual: Move the shift lever to first or reverse gear.
3. Shut all windows.

WARNING:

Be careful where you park or drive. As with any vehicle, do not park or operate this vehicle in areas where combustible materials such as dry grass or leaves can come in contact with a hot exhaust system.

Never leave the engine running in an enclosed space, such as a closed garage or underground carpark.

AUTOMATIC TRANSMISSION

P (park) Select **P** and apply the park brake when leaving the vehicle. This stops the front wheels from turning.

Note: Select **P** only when the vehicle is fully stopped.

R (reverse) Select **R** only when the vehicle is fully stopped.

When **R** is selected and the ignition is on, the reverse lamps illuminate . After reversing, make sure the vehicle has fully stopped before selecting a forward gear.

N (neutral) The transmission is out-of-gear. You can select **N** to start the engine while the vehicle is stopped or still moving.

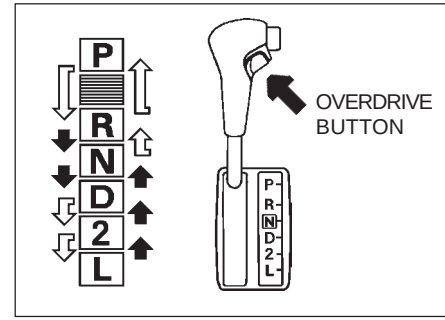
D (drive) OVERDRIVE ENABLED:

Select this gear for normal or freeway driving to use all forward gears.

The transmission changes to the appropriate gear based on load and driving conditions.

OVERDRIVE DISABLED:

The transmission shifts between first, second and third gears as conditions require.



Overdrive is excluded.

Third gear gives responsive acceleration and deceleration especially in hilly areas.

2 (second) The transmission shifts between first and second gear as required.

Select **2** when descending a steep gradient to avoid excessive use of the brakes. Select **D** to return to normal driving.

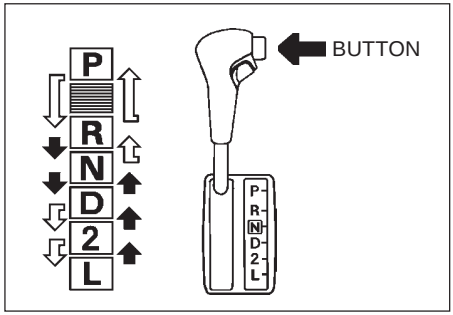
L (low) First gear only. Select **1** when strong engine-braking is required, for example, down a very steep gradient.

Remember to again select **D** to enable the transmission to shift into higher gears.

AUTOMATIC TRANSMISSION cont.

Press and hold the shift lever button to select any gear indicated by an open arrow.

The button does not need to be pressed to shift the lever to any gear marked by a black arrow.



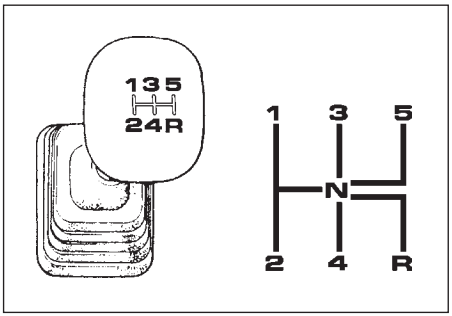
Note:

- Sufficiently reduce the vehicle speed before selecting a lower gear.
- Do not press the accelerator pedal and apply the brakes at the same time. This overheats the transmission.
- Do not use the accelerator pedal to hold the vehicle on a slope; use the brakes.
- Do not coast the vehicle in **N**. This reduces your control and disables engine-braking.
- Refer to Chapter 7 when checking the automatic transmission fluid level.
- The engine will start only with **P** or **N** selected.
- A transmission fault is indicated if:
  - the vehicle does not accelerate as usual
  - the vehicle will not change to a lower gear when you accelerate hard
  - the O/D OFF indicator blinks (with the ignition on).

  If a fault is indicated, manually shift through the gears using the transmission lever and consult a Holden Retailer as soon as possible.
- If you select the next lower gear at a speed higher than that allowable for the gear, the transmission will not downshift until the vehicle speed slows to the maximum speed of the selected gear.

MANUAL TRANSMISSION

This system has five forward gears and one reverse gear. The shift pattern is displayed on the top of the gear shift lever.



Clutch use

Always press the clutch pedal fully before changing gears, to avoid clashing and possible chipping of the transmission gears. If the gear does not engage easily, release and press the clutch pedal or shift to another gear before trying again.

Do not drive with your foot resting on the clutch pedal; this causes substantial clutch wear.

When stopped on an incline, use the park brake or brake pedal, not the clutch.

Shift the gear lever with moderate effort, allowing time for the transmission synchronisers to work properly.

Shift into a lower gear before starting a steep downgrade to maintain safe speeds and to reduce brake wear and overheating.

Do not over-speed the engine when shifting to the next lowest gear.

WARNING:

Do not increase the engine speed into the red zone of the tachometer.

Reverse gear

Do not engage reverse gear unless the vehicle is completely stopped. The reversing lamps illuminate when you select reverse gear while the ignition is ON.

You should pause for a few seconds between pressing the clutch pedal and moving the transmission lever into reverse gear. This allows the rotating components to stop and avoids gear clashing.

SNOW CHAINS AND DRIVING PRECAUTIONS

Snow chains

Standard snow chains can be used on your vehicle. However, although your all-wheel drive vehicle is designed to get better traction on slippery roads than a two-wheel drive vehicle, it will not have as much traction in deep snow, mud or sand as a multipurpose four-wheel drive. Do not drive your vehicle in these situations.

Driving precautions

BRAKES

- Power assisted brakes, which are fitted to your vehicle, require vacuum from the engine when it is running. Never let the vehicle run down steep grades nor coast with the engine switched off.
- Driving through water may affect brake performance. Apply the brakes lightly to check if they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead, until brake performance returns to normal.
- Do not obstruct brake pedal travel by using ill-fitting floor mats or any other material which causes interference with normal pedal movement.
- Position your seat so that you can press the brake pedal satisfactorily under all braking conditions.

POWER STEERING

If the power steering is rendered ineffective, the vehicle can still be steered. However, much greater effort is then required for steering so have the problem fixed promptly.

LOOSE ARTICLES

Do not leave loose articles or luggage in the passenger compartment. Items could obstruct the driver's vision or be thrown in an accident, causing injury. When possible, firmly secure loads stowed in the luggage compartment.

WARNING:

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around and where possible placed in the load area of the vehicle. A purpose-built carrying compartment should be used if gas cylinders are frequently transported. Transportation of gas cylinders is regulated by legislation in some states.

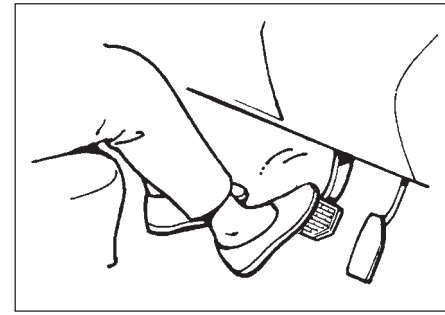
TYRE TRACTION

When water, snow, ice, gravel or other materials are on the road surface, traction is reduced when driving, including cornering and braking. Adjust driving practices and vehicle speed to the road conditions.

LOADING THE VEHICLE

Loading the vehicle changes the mass distribution and therefore the handling when driving. Fitting LPG to your vehicle also changes the mass distribution. After loading the vehicle or fitting LPG, take extra care to become familiar with the vehicle's driving feel. Refer to Chapter 10.

ABS (if fitted)



The distance needed to bring any vehicle to a halt increases with the speed of the vehicle.

The braking distance needed at 60 km/h will be approximately four times greater than at 30 km/h. Start to brake and slow down gradually, when there is plenty of distance between your vehicle and the stopping point.

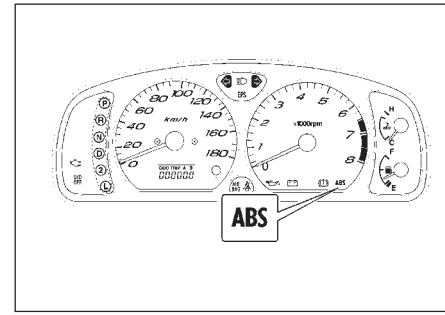
ABS (Anti-lock Brake System) helps maintain steering control on slippery surfaces or when braking hard. The ABS works automatically, so do not apply special braking techniques.

When the ABS activates, you might feel the brake pedal move slightly. This is normal.

WARNING:

ABS will not work if the vehicle speed is under approximately 10 km/h.

When you switch the ignition to ON, the ABS indicator illuminates momentarily. Refer to Chapter 1.



WARNING:

Do not let this safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style.

CHAPTER 5

Fuel

Page

5-2 Fuel

5-4 Petrol

5-5 Emission Control

5-6 Reducing fuel consumption

FUEL

EXHAUST WARNING – CARBON MONOXIDE POISONING

- **Exhaust gases can produce carbon monoxide; a dangerous gas, which can cause unconsciousness and even death to both humans and animals.**
- **You could inhale the gases if the exhaust system on your vehicle is faulty.**
- **To protect against exhaust gases entering the vehicle, the exhaust system and the body should be inspected:**
  - **each time the vehicle is serviced**
  - **whenever a change is noticed in the sound of the exhaust system**
  - **whenever the exhaust system, underbody or rear of the vehicle is damaged.**
- **Take the vehicle to your Holden Retailer if you think it needs inspecting.**
- **Do not sit (or leave children or pets) in a parked vehicle for any extended period of time with the engine running.**
- **Do not run the engine in an enclosed area (such as the garage) any longer than is needed to move the vehicle.**
- **Driving with the tailgate / rear doors open is not recommended. If you must travel with any of these doors open, close all of the windows, set the heater controls to outside air (rather than recirculated) with air directed to the face and set the fan to the highest speed. Do not exceed 50 km/h.**

When the vehicle is driven for the first time, wax and oil on the exhaust system may evaporate producing smoke-like emissions. These should not be inhaled. Allow the wax and oil to evaporate while the vehicle is in the open air.

LPG conversion

These vehicles have not been designed by Holden to be converted to LPG and Holden does not provide LPG conversion kits for these vehicles. Please refer to the warranty section in Chapter 9. Your New Vehicle warranty may be invalidated to the extent that any LPG alterations affect the specifications of your vehicle.

WARNING – USE OF FUEL CONTAINING ETHANOL

We recommend that your vehicle be operated on fuel containing no more than 10% ethanol. Purchasing your fuel from a reputable fuel retailer may reduce the risk of purchasing fuel with more than 10% ethanol or fuel which contains abnormal fuel properties.

Under no circumstances should you use fuel containing more than 10% ethanol. Use of such fuels may result in engine malfunction, starting and operating difficulties, and materials degradation. These adverse effects could result in permanent damage to your vehicle and personal injury. It is also important to note that when ethanol blends are used, fuel consumption can be expected to increase due to the lower energy content of ethanol.

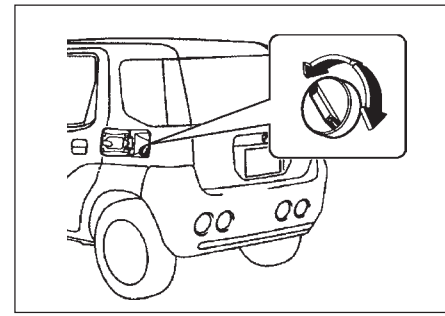
FUEL cont.

WARNING:

- **Petrol should be regarded as extremely flammable and highly explosive.**
- **Always turn off the engine and mobile phones when refuelling.**
- **Do not smoke or allow open flames or sparks near the vehicle when refuelling.**
- **If petrol fumes are smelt while driving, the cause should be found and corrected without delay by a Holden Retailer.**

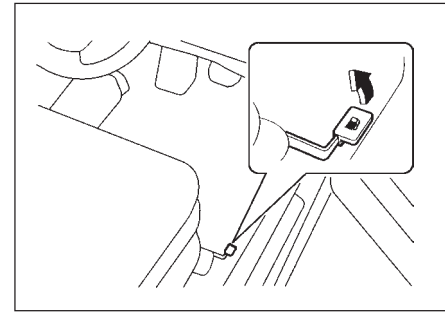
Petrol filler

The petrol filler is located on the passenger side of the vehicle.



Petrol flap

Open the petrol flap by lifting the lever located on the door side of the driver's seat.



Petrol cap

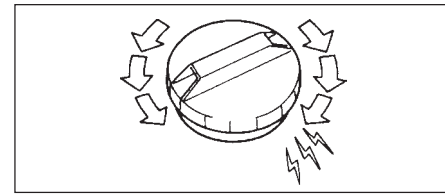
Remove the filler cap by turning it anticlockwise. Turn it slowly to allow any residual pressure to escape.

The filler cap is a screw-on, ratcheting type.

To install the cap, turn it clockwise until you hear a ratcheting (clicking) sound.

After refuelling, install the cap and close the petrol flap.

If you need to replace the petrol cap, use only a genuine Holden part or its equivalent.



WARNING:

The use of any fuel, other than the fuel specified, may cause serious damage to your vehicle and may void your New Vehicle warranty. Only clean fuel of good quality should be used.

PETROL

Filling the tank

Refer to Chapter 8 for your vehicle fuel tank capacity**.**

Over filling the petrol tank can affect the evaporative emission control system and can also result in a smell of petrol inside the vehicle. Therefore, fill the tank as follows:

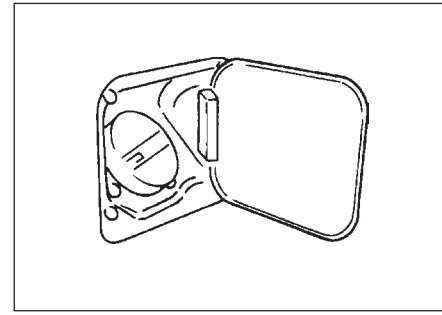
- Pump fuel at the intermediate or fast fill rate.
- Stop pumping fuel into the tank after the filler first clicks off.

  This allows room for the petrol to expand inside the tank.
- Trickle fill the petrol tank only when you are to drive for more than 50 km immediately after the tank is filled. (This is not recommended on days over 30°C.)

Overflows

If the petrol splashes or overflows:

1. wipe it off the vehicle immediately
2. close the fuel opening
3. spray or splash the area with water.



Petrol filler nozzle restrictor

Your vehicle has been designed to operate on UNLEADED petrol.

A petrol nozzle restrictor is fitted to ensure that only unleaded petrol is used. This allows the narrower, unleaded petrol nozzle to open the hinged flap and enter the filler. The leaded petrol nozzle is larger and cannot open the flap.

WARNING:

The use of any fuel other than the fuel specified, may cause serious damage to your vehicle and may void your New Vehicle warranty. Only clean fuel of good quality should be used.

R.O.N. (Research Octane Number)

Use clean, unleaded petrol. Your vehicle runs normally on 91 R.O.N, but can achieve slightly improved engine performance when run on 95 R.O.N.

EMISSION CONTROL

Burnt fuel produces hydrocarbons (HC), oxides of nitrogen (NOx) and carbon monoxide (CO). When these are exposed to sunlight (under certain conditions), they contribute to photochemical smog. Also, concentrated carbon monoxide in the air is highly toxic.

Your vehicle is fitted with emission control systems. These are designed to reduce the amount of hydrocarbons, carbon monoxide, and oxides of nitrogen that are emitted into the atmosphere from the engine and fuel system.

Owner responsibility

Vehicles sold and serviced within Australia have been designed to comply with Australian Design Rules and state regulatory emission requirements.

Note: The engine, engine control system or exhaust system of your vehicle must not be modified in any way.

Any change to the manufacturer's design may increase the emissions or otherwise defeat the intent of the regulations.

WARNING:

Any person who removes, modifies or hinders any part of the emission control system fitted to a vehicle will be contravening Australian Design Rules (refer to A.D.R. 28/01, External Noise for Motor Vehicles and A.D.R. 79/00, Emission Control for Light Vehicles). It is also illegal to drive a vehicle modified in this way.

For continuing compliance with the regulations, ensure that your vehicle's emission control system is maintained at the frequency shown in the Maintenance schedule in Chapter 12.

It is recommended that the necessary servicing be performed by an authorised Holden Retailer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

Engine

Maintain the engine in peak mechanical condition by having it serviced regularly in accordance with the Maintenance schedule in Chapter 12. This ensures that components are maintained or replaced enabling minimum fuel usage and peak engine performance.

Tyre pressure

Inadequate tyre pressure costs money due to poorer fuel economy and increased tyre wear. Keep the tyres at the recommended pressures.

Wheel alignment

Maintain correct front wheel alignment. Incorrect alignment makes the front wheels drag and increases fuel consumption.

Warm ups and idling

Avoid long engine warm ups through idling. An engine reaches its efficient operating temperature most effectively when driving.

Also avoid long engine idling. If you have to wait for more than a couple of minutes, it is worthwhile to switch off the engine and conserve fuel. Three minutes of idling corresponds to approximately 1 km of driving.

Accelerating, driving and braking

Accelerate gently, avoiding rapid starts, sudden bursts of speed, full throttle acceleration and hard braking. Drive at steady speeds where possible (after run-in). Try to reach top gear as soon as possible, but do not force the engine to labour in top gear.

Riding the brake

Riding the brake (resting your foot on the brake pedal with no intention to brake) can overheat the brakes. This can wear out the brake pads, damage the brakes and it wastes fuel.

Air conditioning

Other than a periodic refresh of the system, turn the air conditioning off when it is not required. This reduces fuel consumption.

Roof racks

Roof racks can increase fuel consumption by 1 litre per 100 km or more due to increased air resistance. Remove them when not in use.

Loading

The weight of unnecessary loads increases fuel consumption, especially when accelerating. In city traffic, a load of 100 kg can increase fuel consumption by 0.5 litre per 100 km.

Notes

CHAPTER 6

Emergencies

Page

6-2 Accidents
- Being involved
- Being a witness
- Medical assistance

6-4 Flat tyre

6-8 Towing your vehicle

6-9 Engine overheating

6-11 Flat battery

6-13 Airbags

6-17 Bulb replacement

6-22 Fuses

Your new vehicle is covered for 3 years by 24 hour Roadside Assistance, refer to Chapter 9.

ACCIDENTS

All motorists are advised to learn what to do at the scene of an accident, particularly where persons are injured. Injured people can choke to death if their air passages are not cleared. They can bleed to death unless the bleeding is stopped. They may require mouth-to mouth resuscitation or may have to be moved, even though badly injured. It is important that you understand how to avoid further damaging an injured neck or back or other broken limbs. In all cases, ensure safety for the rescuers, victims and bystanders. The following notes may help.

Part 1. Accident - being involved.

If you are involved in an accident you are advised to do as follows:

- Stop immediately and remember to switch off the engine and apply the park brake.
- Remember that time is vital. Remain calm and alert. Think quickly and clearly.
- Give all possible assistance to all injured persons (refer to Part 3. Medical assistance).
- Send for police and ambulance if anyone has been injured. Give information as accurately as possible. Give the exact location, the number of injured people and a brief report on the overall situation.
- Warn all other traffic approaching the scene. Switch off all ignition switches. Stop any smoking or mobile phone use near spilt petrol. In darkness, try and light up the area to warn others - use a torch, hazard lamps, headlamps etc. Do not use flammable items.
- Clear the road of accident debris.
- Exchange your name, address, vehicle registration number and the vehicle owner's name and address with the other parties involved in the accident.

If damage to property only has occurred, report the facts to the owner of the damaged property, to his or her representative, to any police present at the scene or to the nearest Police Station.

Try to note all important facts because such details may be important if needed later.

Part 2. Accident - being a witness

If you witness a road accident or it becomes your task to stop and help at the scene of an accident:

- Keep in mind that an observant witness can prove most helpful. Some day you yourself might be very glad of help from a witness.
- DO NOT stop at the scene of an accident just to be a spectator.
- Where other people are already in attendance and giving assistance, you should stop only if you can contribute assistance.
- Give what assistance you can to any injured persons. (Refer to Part 3. Medical assistance).

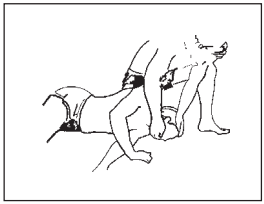
ACCIDENTS

Part 3. Medical assistance

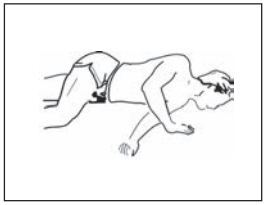
This information is basic first aid information which is intended as a guide only and may not be applicable in all situations. You should always defer to a trained medical officer or other person with first aid knowledge. Protective equipment, such as rubber gloves are recommended.

Keep calm and think clearly. Your experience may not be much but do your best.

- Look after the unconscious person first. Check airway, breathing and circulation. If no breathing, then check that the air passage is clear, that is, nose and mouth. Use your fingers to clear air passages if necessary. If the air way is clear then mouth-to-mouth resuscitation may be needed at once.
- You must be very careful when moving an injured person. It is best not to move at all, except if in danger, as serious and permanent damage can be done to an injured neck or back if not supported during movement. AVOID BENDING OR TWISTING A NECK OR BACK. KEEP THEM STRAIGHT. All injured limbs require support when an injured person has to be moved.
- Unconscious people can choke. To help avoid this:
  - carefully rotate the person to one side
  - tilt their head back slightly
  - wipe out the mouth with your finger to remove blood, vomit, broken teeth or dentures.



- Provided it is not dangerous to do so due to injuries, an unconscious person will do best in the following position:
  - lay the person on one side
  - bend the uppermost knee until the thigh is at a right angle to the body
  - bend the uppermost shoulder and elbow so that the hand lies near the face
  - gently pull the underneath arm so that it rests straight on the ground free of any body weight.



- Try to stop bleeding by applying direct pressure, using your hand, or by pressing torn flesh together. Use any clean cloth available. Fold cloths to make pads. If necessary press one pad on top of another. Keep pressure around edges of a wound BUT NEVER USE A TOURNIQUET.
- Shock may be treated by reassurance, relieving pain, controlling any bleeding and keeping the injured person warm but not hot. It is best not to give any fluids and NEVER ALCOHOL.
- If the injured person is in danger and has to be moved, try and have three or four people help and concentrate on not bending or twisting the neck, spine and injured limbs. Keeping the neck and spine straight is most important.

FLAT TYRE

If using a jack other than the one supplied with the vehicle, be sure to use correct lifting positions. Refer to step 10.

WARNING:

- **Use the jack only for lifting the vehicle when changing wheels.**
- **Never get beneath the vehicle when it is only supported by the jack.**
- **Do not start or run the engine while the vehicle is only supported by the jack.**
- **All passengers should be out of the vehicle when it is being jacked.**
- **Use the jack only at the designated lifting points. Use in other locations could damage the vehicle.**
- **The vehicle should only be jacked on hard, level surfaces.**

Temporary spare wheel

Your temporary spare must have a maximum load rating of not less than 412 kg, or a load index of 77, and a speed category symbol of not less than M.

WARNING: TEMPORARY SPARE WHEEL

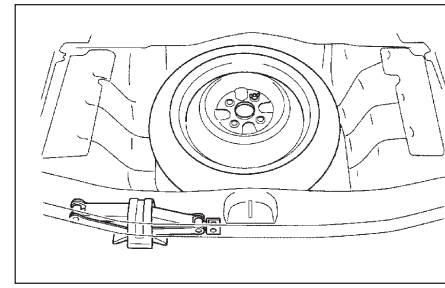
Your vehicle is fitted with a temporary spare wheel. The temporary spare wheel is for emergency spare use only; drive carefully and do not exceed 80 km/h when the wheel is fitted on the vehicle. Your vehicle's handling capabilities will be reduced when the temporary spare wheel is fitted. Only one temporary spare can be used on the vehicle at the one time. The flat tyre should be repaired and refitted to the vehicle as soon as possible.

Temporary spare wheel and tyre specification:

RIM SIZE	TYRE SIZE	TYRE INFLATION PRESSURE
15 X 4 1/2 J	165 / 65R15 81M	Cold pressure: 300 kPa (44 psi)

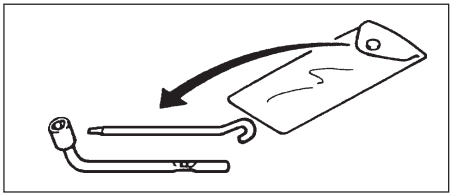
Changing the wheel

1. Park on a level surface with the wheels pointing straight ahead.
2. Firmly set the park brake.
3. Remove the ignition key and lock the steering.



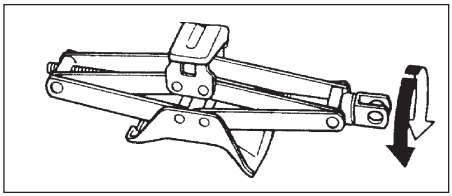
FLAT TYRE cont.

4. Place the transmission in reverse gear for manual or **P** (Park) for automatic.
5. Switch the hazard lamps on if your vehicle is near traffic.
6. Remove the jack and tools (stored under the luggage compartment floor).



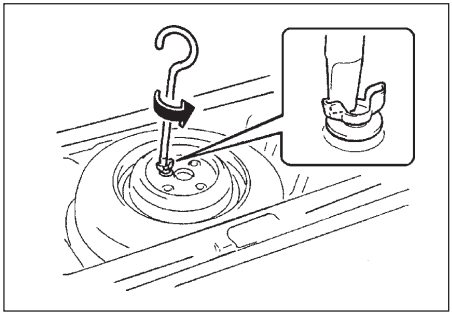
To remove the jack, rotate its shaft anticlockwise and pull the jack out of the storage bracket.

To stow the jack, fit it into the storage bracket and rotate the shaft clockwise until the jack is securely held in place.

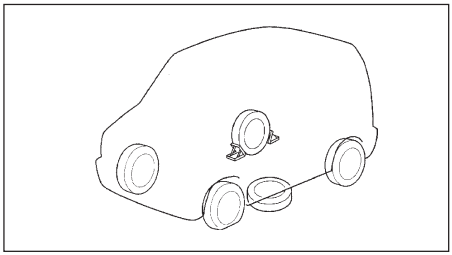


7. Remove the spare wheel.

   If you have difficulty loosening the wing bolt securing the spare tyre, use the jack handle shaft as illustrated.

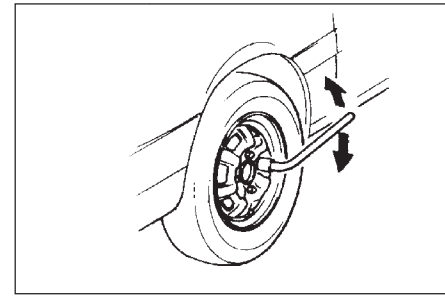


8. Chock the wheel diagonally opposite the flat tyre by placing wedges (any available blocks of wood or rocks) behind and in front of it.



FLAT TYRE cont.

9. Use the wheel nut wrench to loosen (but not remove) the wheel nuts.



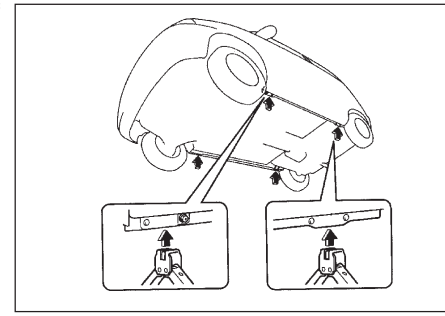
WARNING:

- **Do not jack the vehicle up on an inclined surface.**
- **Do not allow passengers to remain in the vehicle.**

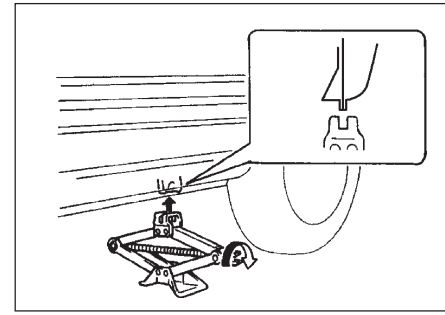
Reinforced sections at the front and rear of the vehicle underbody indicate the points to place the jack.

10. Position the jack in the reinforced jacking point that is nearest the flat tyre.

    Ensure the jack is sitting on a firm, stable and preferably dry surface.



11. Hold the jack vertically and rotate the jack handle clockwise until the jack head recess fits the jacking point.



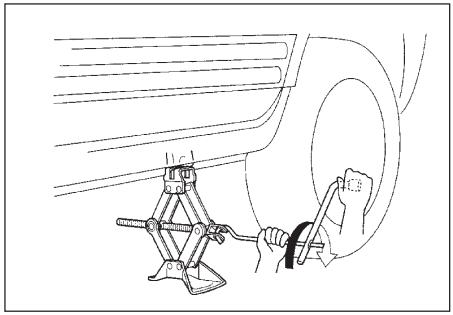
WARNING:

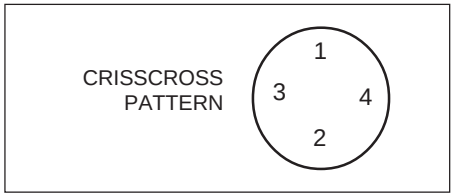
Failure to position the jack as described could result in serious personal injury or vehicle damage caused by the vehicle slipping off the jack.

FLAT TYRE cont.

12. Continue to extend the jack slowly and smoothly until the tyre clears the ground.

    Allow enough clearance for the spare wheel and tyre, however, do not raise the vehicle higher than necessary.
13. Remove the wheel nuts and place them together in a dry place. Avoid getting dirt in their threads.
14. Remove the wheel from the vehicle and fit the spare.
15. Install the wheel nuts by hand.
16. With the wheel wrench, lightly tighten the nuts in a crisscross sequence as illustrated.
17. Lower the vehicle completely and remove the jack.
18. Fully tighten the wheel nuts, again using the crisscross sequence.
19. Stow away the wheel, tools, and jack.
20. Have the flat tyre repaired as soon as possible.





WARNING:

As soon as possible after changing a wheel, you should have the wheel nuts tightened with a torque wrench to between 100 and 125 Nm and have the wheel balanced on the vehicle.

Wheel nuts should be tightened evenly to the correct torque in the sequence shown, as wheel nuts which have not been tightened properly could eventually allow the wheel to come off while the vehicle is moving.

TOWING YOUR VEHICLE

Precautions

Proper lifting or towing equipment is necessary to prevent vehicle damage during any towing operation of the vehicle. Follow state and local laws.

Drive slowly and avoid jerky movements during towing operations.

Power assist for brakes is not available when the engine is off. More effort to brake and steer will be required.

Towing your vehicle

Under normal circumstances, tow your vehicle either with four wheels on a flat-bed truck or with the front or rear wheels lifted and a towing dolly under the other wheels.

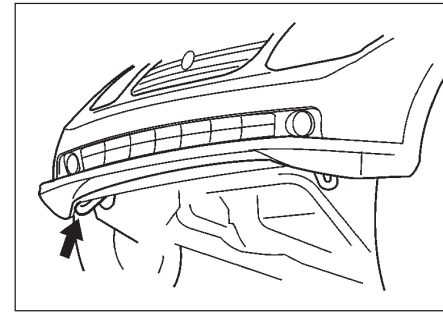
Towing on all wheels

In an emergency, your vehicle may be towed on all four wheels. Do this as follows:

1. Locate the towing eye at the front of the vehicle, as illustrated.
2. Attach a tow rope to the eye.

   Note: Do not attach a tow rope to the bumper, brackets or any part of the vehicle other than the towing eye.
3. Shift the transmission to neutral.
4. Release the park brake.
5. Switch the ignition on.

   This releases the steering lock and enables operation of the windscreen wipers, horn and turn signals.



6. Close the windows and move the ventilation control to the recirculate position to prevent the entry of exhaust fumes from the towing vehicle.

AUTOMATIC TRANSMISSION

Adhere to the following precautions:

- Tow facing forwards only.
- Do not tow your vehicle for more than 100 km.
- Do not tow your vehicle over 80 km/h.

If the transmission is defective or the above speed or distance is to be exceeded, transport the vehicle with all four wheels supported. For instance, on a flat bed truck.

ENGINE OVERHEATING

The following symptoms can indicate engine overheating:

- The temperature gauge needle moving to the red zone.
- Steam escaping from under the bonnet.
- A loss of power.
- A loud knocking or pinging noise.

WARNING:

Immediate action is required if the engine overheats.

Continued driving EVEN FOR A SHORT TIME could cause a fire or vehicle damage.

Pull out of traffic as soon as possible. Stop the vehicle but leave the engine idling and the park brake applied. Get out and check that the cooling fan is working.

WARNING:

Do not open the bonnet if you can see or hear steam or coolant escaping from the engine compartment. Scalding fluid and steam can be blown out under pressure and cause serious burns. Wait until no steam or coolant can be seen or heard before opening the bonnet.

If the fan is working and the temperature gauge needle has not returned to its normal position within a few minutes, then stop the engine and remove the ignition key.

Safely check for leaks in the following places:

- Radiator hoses and connections.
- Heater hoses and connections.
- Radiator.
- Water pump.

WARNING:

If you find a leak, or another problem that may have caused the engine to overheat, you must ensure that this is repaired before you run the engine again.

Take care when checking all of these areas as they will probably still be hot.

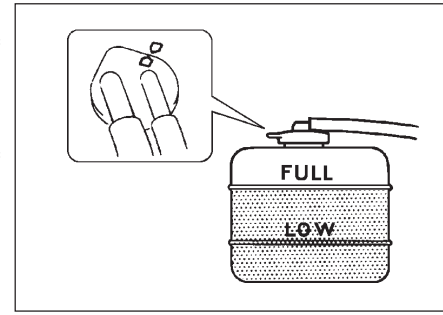
If you do not find anything wrong, then check the engine coolant level in the reservoir. This is outlined in the following section.

WARNING:

Do not remove the cooling system cap if the engine and radiator are still hot.

ENGINE OVERHEATING cont.

Check the coolant level



The coolant reservoir is located in front of the battery; it has a green cap. Check the level by looking at the side of the reservoir.

With this type of sealed, pressurised cooling system, there should be very little loss of coolant. If the reservoir is low, a leak can be indicated. Consult a Holden Retailer to check the system.

The coolant level should be above the LOW mark. If the level is below the LOW mark, add coolant.

Adding coolant

1. Cover the reservoir cap with a thick cloth.
2. **Slowly** remove the cap allowing any residual pressure to escape.
3. With the engine idling, add a coolant mixture (meeting the correct specifications) or clean water to the reservoir until the level reaches the FULL mark. Do not over fill. Refer to Chapter 8.
4. Install the cap and leave the engine idling for a few minutes.

If the temperature gauge no longer displays an overheat condition, resume driving at a reduced speed. Return to normal driving if the temperature gauge does not again show an overheat condition after 10 minutes.

If you added clean water, consult a Holden Retailer to correct the coolant with a mixture to the correct specifications.

If overheating occurs again, have the vehicle inspected by a Holden Retailer as soon as possible.

Demanding conditions

The engine may temporarily operate at high temperatures during more demanding operating conditions, especially on very hot days. These conditions include:

- climbing a long hill
- stopping immediately after high speed driving
- idling for long periods in traffic
- towing a heavily laden trailer.

Avoid operating your vehicle for prolonged periods in any of the above circumstances if the temperature gauge indicates high engine coolant temperature.

Refer to Chapter 7.

FLAT BATTERY

If your vehicle will not start due to a flat battery, you might be able to start it using a battery in another vehicle; a procedure called jump starting.

WARNING:

Do not attempt to push start or tow start this vehicle. If raw fuel reaches the catalytic converter and ignites, the converter could be damaged or destroyed by backfire.

Note: Read the following procedure in full before attempting to jump start your vehicle. If you are unsure about this procedure, leave the starting to a competent mechanic.

If your battery discharges repeatedly for no apparent reason, have it inspected by an authorised Holden Retailer.

WARNING:

- **Battery action generates hydrogen gas which is flammable and explosive so do not expose the battery to open flames or sparks.**
- **Do not allow smoking near a battery.**
- **Wear eye protection such as industrial safety glasses and avoid leaning over the battery whenever possible.**
- **Do not allow battery acid to contact eyes or skin. In case of eye contact, get medical help. Immediately flush any contacted area with water.**
- **Battery acid damages paint and fabrics. To minimise damage, wash any spills immediately.**
- **Be sure that any refillable batteries are properly filled with fluid.**
- **Remove rings, metal watch bands and other metal jewellery before working around a battery.**
- **If jump starting, carefully follow each step in the procedure.**
- **Never use a quick charger to start your engine.**
- **Do not stand near the battery during jump starting.**

FLAT BATTERY cont.

Jump starting preparation

Your vehicle battery has a negative earth and a 12 volt rating. Ensure that the battery in the assisting vehicle has a negative earth and the same voltage rating.

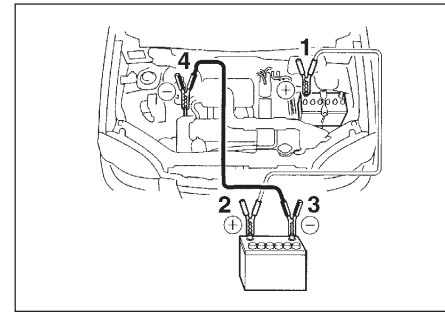
The capacity of the assisting battery must not be substantially lower than that of the discharged battery. Check the specifications in the owner manual of the assisting vehicle if necessary. Serious injury or damage can result with incompatible batteries.

1. Position the two vehicles so that the batteries are close, and apply the brakes.
2. Ensure the vehicles are not touching.
3. Automatic: Select **P** (Park).

   Manual: Select neutral.
4. Switch the ignition off.
5. Switch off all lamps and accessories in both vehicles except the hazard warning flasher or any lighting needed for the work area.

Jump starting

When making connections, do not allow the cable clamps to inadvertently touch each other. Ensure that they are not on or near pulleys, fans or other parts that move when the engine is started.



1. Attach one end of the first jumper cable to the positive terminal of the flat battery (indicated by **+** or **P**).
2. Connect the other end of this cable to the positive terminal of the assisting battery.
3. Attach one end of the second jumper cable to the negative terminal (**—** or **N**) of the assisting battery.
4. Connect the other end to a solid, metallic position on the disabled engine, away from the flat battery.

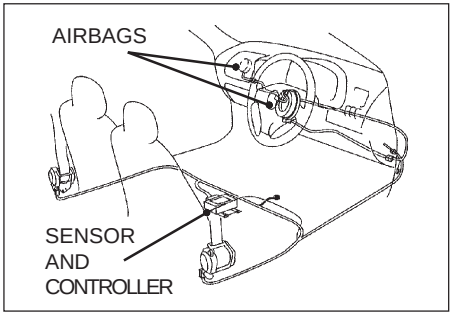
   Do not connect this cable clamp directly to the negative post of the flat battery.
5. Start the assisting engine and run it at high idle.
6. Attempt to start the disabled engine. Try for a maximum of 15 seconds with intervals of 1 minute between attempts, as necessary.
7. After starting, leave the leads connected and allow both engines to idle for a few minutes.
8. With the engines running, carefully remove the jumper cables by reversing the above sequence.

WARNING:

While removing each clamp, take care that it does not touch any other metal or moving parts, especially while the other end is still attached.

AIRBAGS

Airbag system



The airbag system consists of:

- a driver airbag
- a front passenger airbag
- crash sensors
- an electronic controller
- airbag inflators
- seat belt pretensioners.

These are in addition to a lap-sash belt for each front seat.

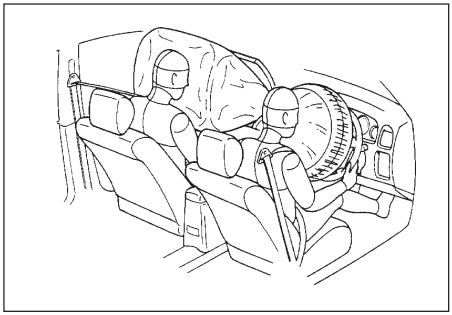
AIR BAG indicator

The AIR BAG indicator on the instrument panel flashes on and off six times when the ignition is switched on. This indicates that the airbag system is operational. Contact a Holden Retailer as soon as possible if the indicator either:

- does not illuminate when the ignition is switched on
- stays on for more than 10 seconds when the ignition is switched on
- comes on when driving.

The system may not function correctly, especially in an accident.

Airbag fitment



Airbags are fitted for the driver and front passenger. These are identified by the words AIR BAG on the steering wheel and above the glovebox.

The airbags assist, but do not replace the seat belts.

By law, seat belts must be worn by the driver and all passengers whenever the vehicle is moving.

If you are too close to an inflating airbag it could seriously injure you. Seat belts help keep you in position for airbag inflation in a crash.

AIRBAGS cont.

Seat adjustment

The airbags inflate with great force. Correctly adjust the seats to ensure that you are not too close to the airbag.

Adjust the seats to suit the occupant's height. The driver should be able to sit upright with slightly bent arms when holding the upper area of the steering wheel. Refer to Chapter 3.

Adjust the front passenger seat as far back as possible with the back rest upright.

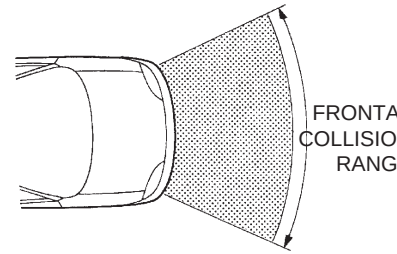
Note: The airbags are triggered simultaneously and operate as a pair.

Airbag deployment

If your vehicle is involved in certain severe front end collision/s, the airbags inflate and assist the seat belts to restrain forward body movement.

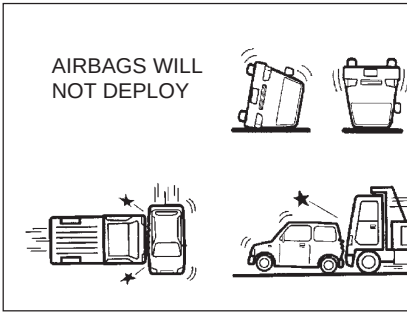
When the airbags inflate, you may notice an operating noise and a small amount of smoke-like gas. The gas is harmless and does not indicate a malfunction or fire.

The airbags then deflate; the whole process only taking a moment.



WARNING:

The airbags are not designed to deploy if the vehicle is hit from the rear or side or if it overturns.

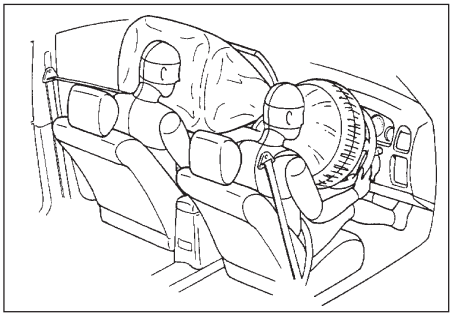


AIRBAGS cont.

How the system works

In a front-on collision, the crash sensors detect rapid deceleration and send a signal to the controller. When this signal represents certain severe front-on crashes, it triggers the airbags to deploy.

The quick and forceful inflation reduces the chance of serious injuries, however, irritation can occur to bare skin.



The airbags neither hinder your view nor make it harder to exit the vehicle.

Note: Some airbag components may be hot for a while after inflation.

Do not attach any objects to or place any objects over, the steering wheel or dashboard. Objects can interfere with airbag operation and may be propelled if the airbags deploy. Either of these conditions may cause severe injury.

If your vehicle sustains any front-end damage, have the airbag system inspected by an authorised Holden Retailer to ensure it is in proper working order.

Bull bars

Fitting a bull bar, fitting a nudge bar or making other modifications to the front of the vehicle can change the impact speed that would normally trigger airbag deployment.

Bull bars are only recommended for country and outback areas where additional protection from straying animals is required.

Defensive driving and limiting driving speed based on the road conditions is the best approach, particularly where road side signs indicate wildlife is abundant.

AIRBAGS cont.

After deployment

Have the whole airbag system replaced after inflation has occurred. Consult your Holden Retailer. Also have the system inspected by a Holden Retailer if the steering wheel or dashboard area is scratched, cracked or damaged.

Do not cover the horn pad or dashboard area with adhesive or any other material, as this can hinder airbag operation. Ensure nothing is loaded around this area or hanging from the sun visor.

The airbag and seat belt pretensioner system electronics are located in the centre console area. To prevent malfunctions, do not place magnetic objects in the immediate vicinity of this area.

Interference with the system can lead to its failure or accidental inflation. Ensure that any work to the electrical system, steering column, dashboard area, steering wheel or airbag system is carried out by an authorised Holden Retailer.

Passenger airbag and child restraints

Do not touch any airbag system components or wires. These can be identified by yellow tape wrapping, yellow tubing and yellow connectors.

Scrapping a vehicle that has an uninflated airbag can be hazardous. Consult your Holden Retailer for assistance.

WARNING – EXTREME HAZARD:

Do not use a rearward facing child restraint on a seat protected by an airbag in front of it. The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.

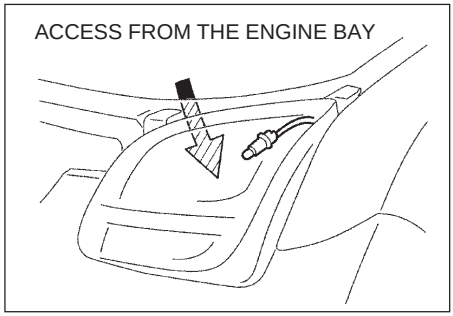
BULB REPLACEMENT

General information

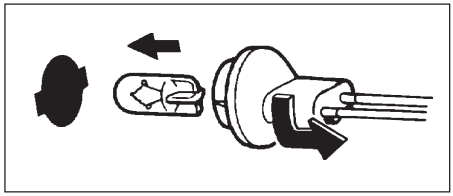
- When replacing a bulb, turn off the related switch and be aware that the bulb may be hot (especially if it is a halogen bulb).
- Do not touch bulbs with bare hands. Greasy fingers cause stains which evaporate and result in a dull light. Grease spots on halogen bulbs can lead to premature bulb failure.
- Use alcohol or white spirits to clean stained bulbs.
- When replacing bulbs, do not exceed the wattage rating of the defective bulb.
- Have your Holden Retailer adjust the headlamp aim as required.
- If the bulb in a circuit requires frequent replacement, have your Holden Retailer inspect the circuit and repair the cause.
- Avoid damage to the lenses by taking care not to over-tighten the retaining screws.

Front park lamps

1. Open the bonnet and engage the support rod. Refer to Chapter 1.
2. Locate the park bulb holder.
3. Rotate the bulb holder anticlockwise and remove it from the lamp assembly.



4. Gently pull the bulb out of the holder.
5. Insert the new bulb firmly.
6. Install the holder into the lamp assembly; press it in and rotate it clockwise.



Fog lamps

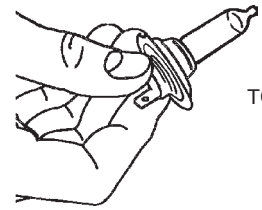
Have the fog lamps replaced by your Holden Retailer.

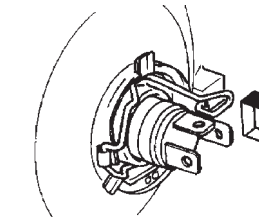
BULB REPLACEMENT cont.

Headlamps

Note: When handling the replacement bulb, do not touch the glass.

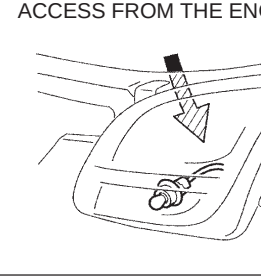
1. Open the bonnet and engage the support rod. Refer to Chapter 1.
2. Locate the headlamp bulb holder at the rear of the lamp assembly.
3. Detach the wiring connector.
4. Remove the sealing rubber.
5. Unhook the retaining spring by pressing it down, then forward and upwards.
6. Remove the bulb from bulb holder.
7. Insert the new bulb into the holder without touching the glass.
8. Ensure that the three locating lugs on the holder engage in the lamp assembly recesses.
9. Install the retaining spring, sealing rubber and wiring connector.





Front turn signal bulbs

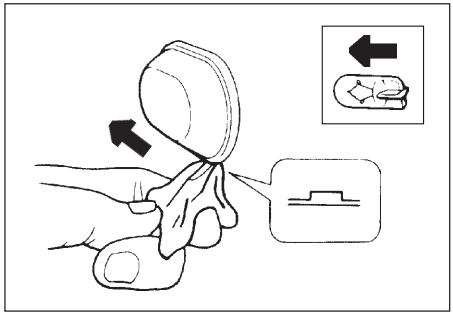
1. Open the bonnet and engage the support. Refer to Chapter 1.
2. Locate the turn signal bulb holder in the lamp assembly.
3. Remove the bulb holder from the lamp assembly by rotating the holder anticlockwise and lifting it out.
4. Remove the bulb from the holder; press it into the holder, rotate it anticlockwise and lift it out.
5. Insert the new bulb and engage it in the holder by rotating it clockwise.
6. Install the holder into the lamp assembly; press it in and rotate it clockwise.



BULB REPLACEMENT cont.

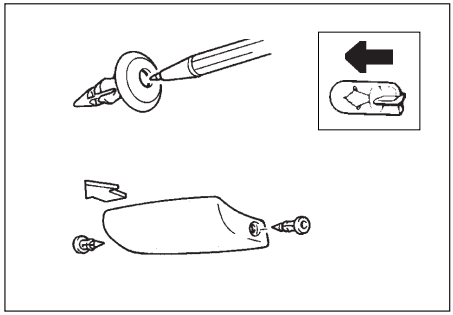
Side turn signal lamps

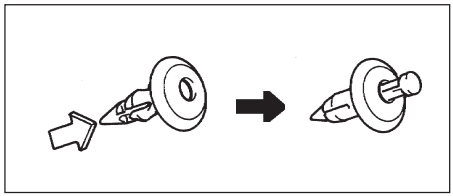
1. Locate the turn signal bulb lens located on front guard.
2. Gently lever the lens from the recess.
3. Pull the bulb out of the holder.
4. Insert the new bulb firmly.
5. Install the lens.



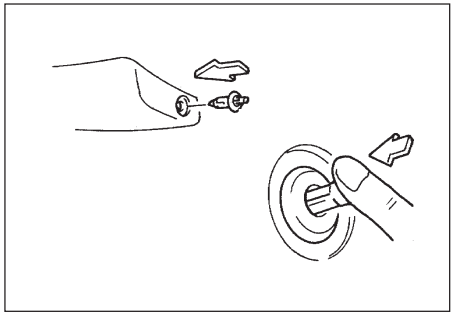
High mounted stop lamp

1. Locate the two retaining lugs on either side of the lamp assembly.
2. Press the retainer pins well into the retainer.
3. Carefully prise each retainer out of the assembly.
4. Remove the assembly cover.
5. Remove the holder with the faulty bulb by rotating it anticlockwise.
5. Gently pull the bulb from the holder.
6. Insert the new bulb firmly.
7. Push the retainer pins out of the top of the retainers, approximately half way.
8. Place the assembly cover in position.



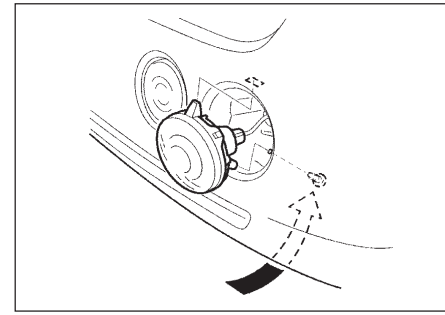


9. Fit the retainers into the assembly with the pins protruding.
10. Press the pins in level with the top of the retainer.



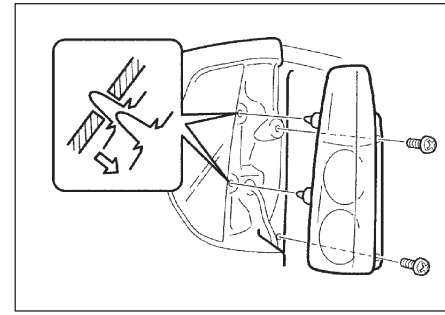
BULB REPLACEMENT cont.

Stop / tail lamps



1. Locate and remove the assembly retaining screw on the back of the assembly (accessed from the underside of the vehicle).
2. Push the assembly out to the rear of the vehicle.
3. Remove the lamp assembly from the bulb holder; rotate the bulb holder anticlockwise and pull it out.
4. Remove the bulb from the holder by pressing the bulb into the holder gently while rotating the bulb anticlockwise.
5. Insert the new bulb (twin filament type) and engage it in the holder by rotating it clockwise.
6. Fit the lamp assembly back onto the holder by pressing it in and rotating it clockwise.
7. Install the assembly.
8. Install the retaining screw.

Rear combination lamps



The upper bulb is the turn signal bulb with the reverse bulb below.

1. Locate and remove the lens retaining screws.
2. Carefully remove the lens.
3. Remove the faulty bulb.
4. Install a new bulb.
5. Fit the lens and install the retaining screws.

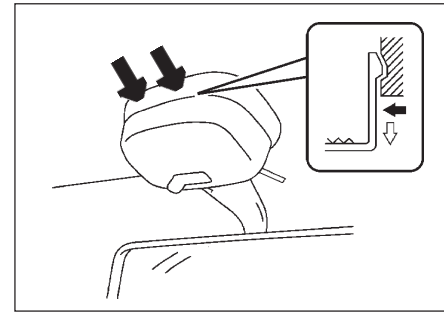
Note: Do not over-tighten the screws or damage to the lens can occur.

BULB REPLACEMENT cont.

Front interior lamp

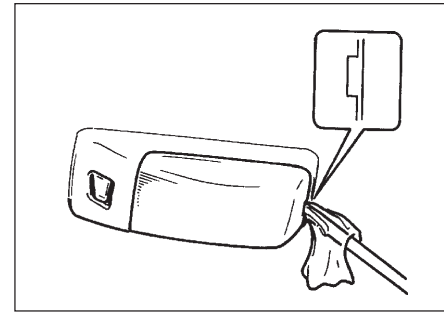
Before removing the bulb, close the doors so that the lamp is not 'live'.

1. Remove the lens; press the front edge of the lens in and pull downwards.
2. Gently pull the bulb out.
3. Install the new bulb ensuring that the contact springs hold the bulb securely.
4. Install the lens by gently pushing it into place.



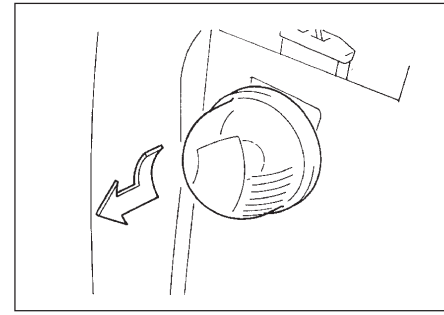
Rear interior lamp

1. Remove the lens carefully lever with a flat bladed screwdriver as illustrated.
2. Pull out the faulty bulb.
3. Install the new bulb ensuring that the contact springs hold the bulb securely.
4. Install the lens by gently pushing it into place.



Number plate lamp

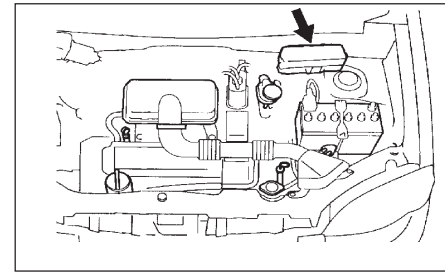
1. Insert a screwdriver vertically into the underside of the lamp assembly and press to disengage the lens.
2. Rotate the lens anticlockwise and manoeuvre it out.
3. Remove the bulb from the holder.
4. Insert a new bulb.
5. Install the lens by gently pushing it in place.



FUSES

Location

There are two fuse boxes. One is located in the engine compartment (behind the battery) and the second is under the dashboard (behind the driver's side cup holder).

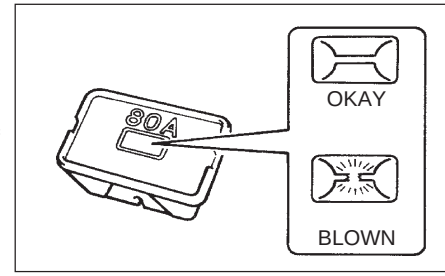


Types

Your vehicle has three types of fuses: main, primary and individual.

MAIN FUSE
The main fuse takes current directly from the battery. If the main fuse blows, none of the electrical components function.

Use only a genuine replacement fuse of the correct rating, not a substitute material.



PRIMARY FUSE
Primary fuses are fitted between the main fuse and the individual fuses. These protect electrical load groups.

If a primary fuse blows, the components in the corresponding load group do not function.

Use only a genuine replacement fuse of the correct rating, not a substitute material.

Load groups:

- Cigarette lighter, turn signals, reverse, wiper / washers, ABS, heater, demister, airbags, ignition coil, gauges, windows.
- Door locks, tail lamps, stop lamps, radio, interior lamps, hazard lamps, horn, power steering.
- ABS.
- Radiator fan.

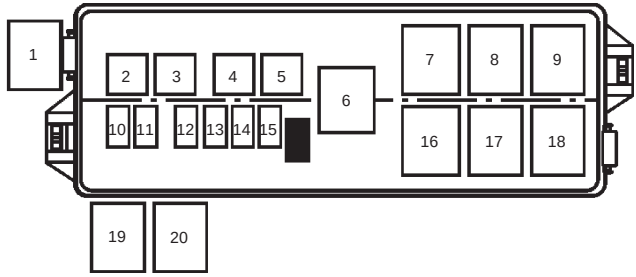
INDIVIDUAL CIRCUIT FUSE
Individual fuses protect the individual electrical circuits.

WARNING:

If a main or primary fuse blows after replacement, have your vehicle inspected by a Holden Retailer. Do not use a substitute for a fuse even as a temporary repair. This can cause extensive damage and even fire.

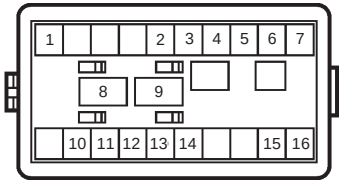
FUSES cont.

Engine compartment fuse box



1.	Fog lamp relay	
2.	Primary fuse: ignition switch	60 A
3.	Primary fuse: circuit fuse box	60 A
4.	ABS control module fuse (if equipped)	50 A
5.	Radiator fan #1 fuse	30 A
6.	Main fuse: battery, generator, all circuits	80 A
7.	Automatic transmission relay (if equipped)	
8.	A/C compressor relay	
9.	Radiator fan #1 relay	
10.	Headlamp: right fuse	15 A
11.	Headlamp: left and instrument panel fuse	15 A
12.	Fog lamp fuse	20 A
13.	Automatic transmission fuse	15 A
14.	Main relay fuse	15 A
15.	Air conditioning fuse	20 A
16.	Fuel pump relay	
17.	A/C condenser fan relay	
18.	Main relay	
19.	Radiator fan #2 relay	
20.	Radiator fan #3 relay	

Under dashboard fuse box



1.	Cig. lighter, radio, mirrors	15 A	9.	Power steering	30 A
2.	Instrument panel	10 A	10.	Horn, hazard switch	15 A
3.	ABS	10 A	11.	Radio / interior lamps	15 A
4.	Wipers / washers	15 A	12.	Tail lamps	10 A
5.	A/C, fan, reverse lamps	10 A	13.	Stop lamps	10 A
6.	Ignition	15 A	14.	Door locks	20 A
7.	Airbag system	15 A	15.	Rear demister	15 A
8.	Power windows	30 A	16.	Heater	25 A

FUSES cont.

It is recommended that you carry a complete spare set of fuses. Provision is made in the fuse box for storing these. There is also a special fuse tool in the fuse box.

Before replacing a fuse, switch the respective switches off and remove the ignition key.

A blown fuse is identified by its melted wire. Only fit a new fuse after the cause of the trouble has been located and eliminated.

Only use a fuse of the specified rating for each circuit. The rating is on the fuses.

Colour rating

Violet	3 A
Pink	4 A
Beige	5 A
Brown	7.5 A
Red	10 A
Blue	15 A
Yellow	20 A
White	25 A
Green	30 A
Orange	40 A

CHAPTER 7

Weekly checks

Page

7-2 Owner / operator checks
7-3 Engine oil level
7-4 Engine coolant level
7-5 Washer fluid level and battery
7-6 Brake fluid level
7-7 Auto transmission fluid level
7-8 Tyres

MISCELLANEOUS CHECKS

As well as ensuring regular servicing (refer to Chapter 12) there are simple weekly checks that the owner / operator is recommended to make. These are shown in the list below and / or on the following pages.

WARNING:

Electronic ignition systems have a high ignition power. Do not touch the ignition system; this could be highly dangerous.

Check the following:

- All exterior lamps are working and their associated interior indicators illuminate.
- The mirrors and glass are clean and not scratched.
- The automatic transmission shift lever indicator correctly lines up next to the gear selected.
- The aim of water onto the windscreen and tailgate is correct and the wipers are in good condition.
- The demister operates.
- The condition and operation of all seat belts is good.
  Give each seat belt a sharp tug to make sure that it locks and check that all buckles are clean and operating correctly.

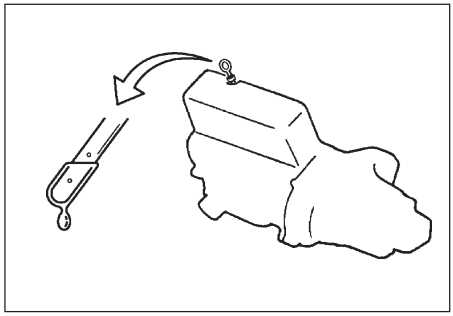
ENGINE OIL LEVEL

Check the level

It is normal for engines to consume some oil. For this reason, check the engine oil level every 500 km and before starting long trips.

Check the oil with the vehicle parked on level ground and with the engine at normal operating temperature but switched off. Wait at least five minutes for the oil to settle.

1. Locate and remove the oil dipstick (it has a yellow finger grip).
2. Wipe the dipstick clean noting the level indicator marks.
3. Push the dipstick into the tube, seating it fully.
4. Wait a moment for the oil to level out around the dipstick.
5. Withdraw the dipstick and inspect the oil level.
6. Add oil as required to maintain the level between the upper and lower limit marks.



The distance between the marks represents approximately 1 litre of oil.

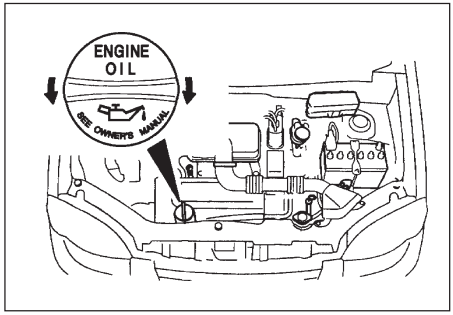
Add oil

Ensure that you use oil of the correct specifications. Refer to Chapter 8.

Judge the rate of oil consumption after the consumption stabilises. This may take several thousand kilometres.

Non-detergent oils and other low quality oils, break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. These can be detrimental and may void your New Vehicle Warranty.

1. Undo the cap on top of the engine (the cap is black).
2. Add enough oil to bring the level to the top mark.
3. Wait a few minutes then check the level again.
4. Add more, as required, until the level is correct.
5. Install the oil cap and the dipstick and clean any spilt oil.



WARNING:

Do not overfill the engine with oil.

ENGINE COOLANT LEVEL

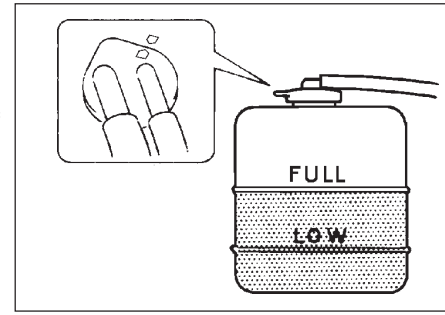
Check the level

Check the coolant level at least weekly.

1. Ensure the engine is cold.
2. Locate the coolant reservoir in front of the battery (it has a green cap).
3. View the coolant through the plastic.

The level should be between the LOW and HIGH marks.

The level rises when the engine is running and drops again when the engine cools down.



Add coolant

Add coolant if the level falls below the LOW mark. Ensure that you use the correct coolant. Refer to Chapter 8 .

1. Mix a solution of 30% Holden Cruze coolant and 70% water.
2. Add enough solution to bring the level to just over the LOW mark (cold engine.)
3. Install the coolant reservoir cap.

Your New Vehicle Warranty is at risk if you fail to use a coolant meeting Holden's specification or maintain the specified concentration of solution.

In an emergency, plain water may be used temporarily, however, obtain and apply the correct coolant as soon as possible.

The specified coolant contains the following:

- Corrosion inhibitors for the best corrosion protection for your vehicle's engine and cooling system.
- An agent that increases the boiling point to give greater hot weather protection.
- An agent providing cold weather protection down to –30° (when the correct coolant concentration is maintained).

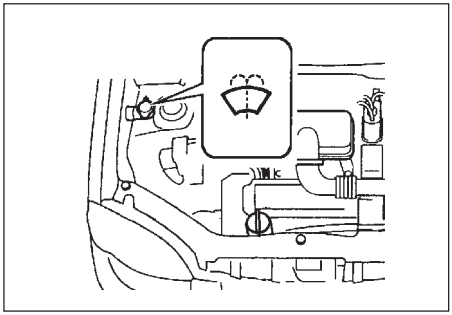
If you need to top up the cooling system regularly, arrange for a Holden Retailer to inspect and repair the system.

WARNING:

Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed seek medical attention. Do not remove the cooling system cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

WASHER FLUID LEVEL AND BATTERY

Washer fluid level



Check the washer fluid level weekly, topping it up as required.

The washer reservoir serves both the front and rear washers.

WARNING:

Do not operate the washer motor if the reservoir is empty.

The reservoir is located in the engine bay, on the driver's side (it has a blue cap).

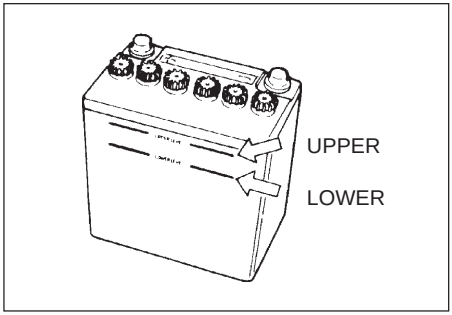
1. Open the flip top cap.
2. Fill the reservoir with water.
3. Secure the cap.

WARNING:

Do not use ordinary soap, detergent or antifreeze agents in your washer reservoir. These cause froth and may damage the wiper rubbers and / or the paint.

For the recommended cleaning additive, refer to Chapter 8.

Battery



The level of the battery solution must be kept between the UPPER and LOWER lines.

If the level falls below the LOWER line, add distilled water until the level reaches the UPPER line.

Periodically check the battery, terminals, and hold-down bracket for corrosion.

Remove corrosion using a stiff brush and ammonia mixed with water, or baking soda mixed with water. Then rinse the area with clean water.

Do not disconnect the battery while the engine is running.

To remove the battery, switch the ignition off, disconnect the negative cable then the positive cable. Reconnect using the reverse procedure.

Do not charge the battery while the cables are connected.

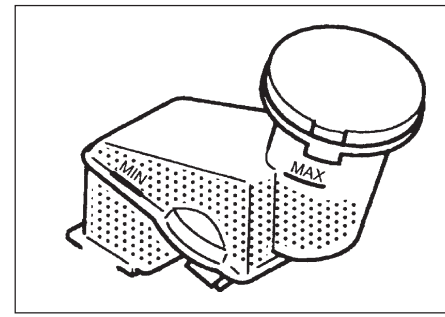
BRAKE FLUID LEVEL

WARNING:

Brake fluid is poisonous and corrosive and will damage the paint finish of your vehicle if spilt.

Check the brake fluid in the master cylinder weekly.

Note: Do not remove the master cylinder cap unless adding fluid. Brake fluid exposed to the atmosphere absorbs moisture quickly, which lowers the boiling point of the fluid and increases the risk of corrosion to brake components.



The master cylinder is located on the driver's side of the engine bay (the reservoir has a grey cap).

View the brake fluid through the plastic, without removing the cap.

The level should be between the MIN and MAX lines. If the level is near the MIN line, add brake fluid.

Arrange for your Holden Retailer to inspect and repair the system as soon as possible if any of the following situations:

- The master cylinder regularly requires filling.
- The brake warning indicator illuminates while the engine is running and the park brake is disengaged. Refer to Chapter 1.
- There is a rapid loss of brake fluid from the system.

Add brake fluid

1. Clean around the cap.
2. Carefully remove the cap and place it on a clean rag away from paintwork.
3. Add fluid until the level reaches the MAX line.

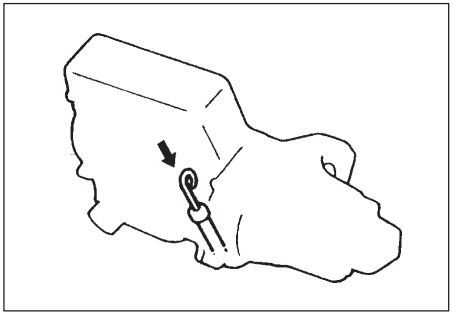
   Note: Ensure the correct heavy duty brake fluid for your vehicle is used. Refer to Chapter 8. Use only new brake fluid. Using old, used or inferior brake fluid can endanger the operation of the brake system.
4. Install the cap.
5. Thoroughly clean any spilt or dripped fluid with water.

AUTOMATIC TRANSMISSION FLUID LEVEL

Cool down

Before checking the fluid level, wait about 30 minutes for the fluid to cool down after the vehicle has been either:

- driven for a long time at high speed
- driven in city traffic in hot weather
- used for towing.

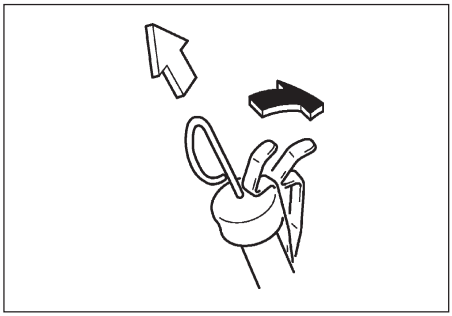


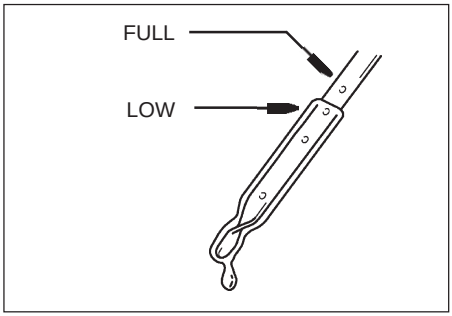
Check the level

Check the fluid with the vehicle on level ground and the engine at normal operating temperature. That is, after the temperature gauge has indicated normal operating temperature for at least 10 minutes.

1. Ensure that the park brake is applied.
2. Move the shift lever to **P**.
3. Start the engine and run it at idle for 2 minutes. Keep the engine running during the level check.
4. With your foot firmly on the brake pedal, move the shift lever through each gear, pausing for about 3 seconds in each position.
5. Move the shift lever back to **P**.
6. From the engine bay, locate and remove the dipstick (it has a red finger grip).
7. Clean the dipstick noting the level indication holes.
8. Push the dipstick back into the tube, seating it fully and waiting a moment for the fluid to settle around the dipstick.
9. Pull it out again and read the fluid level.

   The level should be between the top two holes in the dipstick.
10. Add fluid into the dipstick tube as required.





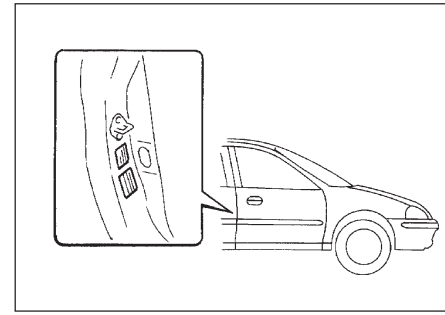
Add transmission fluid

Ensure the correct automatic transmission fluid for your vehicle is used. Refer to Chapter 8.

1. Add just enough fluid to raise the level to the 'full' indicator.
2. Push the dipstick back into the tube, seating it fully.

TYRES

Tyre air pressure



Checking the air pressure of your tyres (including the spare) ensures your safety, as well as reducing fuel consumption and increasing the life of your tyres.

To ensure your vehicle maintains optimum handling, check the pressures weekly. For constant long distance or rough road travelling, check the tyres daily.

For the correct tyre pressures, check the tyre placard. Refer to Chapter 8.

Always use a tyre pressure gauge to check the tyres. Simply looking at the tyres is not sufficient.

Tyre inflation pressure increases when the tyres have been driven for more than 2 km. The pressure should be checked when the tyres are cold (stationary for more than 3 hours). If they must be checked immediately after driving, increase the pressure shown on the placard by 10%.

If the vehicle is heavily loaded, the recommended pressure for the tyres is increased. Refer to the tyre placard. As the tyres are operating under greater load, the weekly air pressure check becomes even more important.

Increase the inflation pressure according to the load on the vehicle. Therefore, if the vehicle is loaded to half the maximum load (refer to Chapter 10), then the tyres should be inflated half way between the minimum and maximum pressures shown on the tyre placard. Vehicles driven for prolonged periods over rough roads, particularly in outback conditions, should use the cold tyre inflation pressure for maximum load condition.

Tyre pressures that are too low can result in considerable tyre warm-up and internal damage leading to tread separation and even to tyre blowout at high speeds. Tyre pressures that are too high can result in reduced traction, increased risk of tyre blowout and poor tyre wear.

Remember to install any valve dust caps or extensions. This stops dirt and moisture from fouling the valves.

When checking the tyre air pressure, take a look at the condition of the tyre tread and inspect for stones or abnormal wear.

Alignment and balance

Improper wheel alignment can cause the tyres to wear faster and unevenly. It can also cause the vehicle to 'pull' to the left or right.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear such as cupping and flat spots.

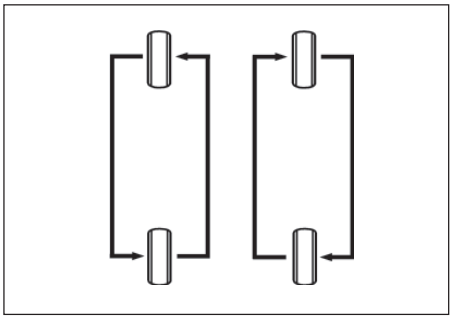
If you have any reason to suspect that either of these problems exist, have a wheel alignment and balance check performed by your Holden Retailer.

TYRES cont.

Tyre inspection and rotation

Front and rear tyres perform different jobs. They can wear differently depending on the types of roads driven, driving habits, alignment, balance and tyre pressures.

Tyre condition will be checked for you when you take your vehicle to be serviced by a Holden Retailer. The Retailer will be able to diagnose any unusual signs of wear. If the tyres are rotated, it is recommended that the balance be checked at the same time.



Note: The temporary spare wheel cannot be used in tyre rotation.

Heavy treads

Caution must be exercised when using tyres with heavy treads, including tyres designed to gain traction in bad weather conditions. At sustained high speeds this type of tyre runs at higher temperatures than standard tyres and should only be operated within the limits recommended by the manufacturer.

Refer any doubts concerning the fitness of the tyres on your vehicle to a Holden Retailer.

Wheel replacement

If replacing the wheels, ensure that the new wheels are equivalent in diameter, rim width, offset and mounting configuration to those originally installed in your vehicle.

Note: Replacing your factory fitted wheels and tyres with non-specified wheels and tyres may affect your New Vehicle Warranty and motor vehicle insurance policy.

Tyre traction

WARNING:

A decrease in driving, cornering and braking traction occurs when water, snow, ice, gravel or other material is on the road surface. Driving practises and speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This aquaplaning may cause partial or complete loss of traction, which adversely affects control and stopping ability. To reduce the possibility of traction loss, observe the following precautions:

- Reduce speeds during rainstorms, when roads are slushy or if the road has puddles.
- Replace the tyres when the tread wear indicators are visible.
- Check that the tyres are properly inflated.

TYRES cont.

Tyre replacement and repair

WARNING:

Do not mix different tyre construction types on your vehicle, such as radial and cross ply, except in emergencies. Your vehicle's handling could be affected and may result in loss of control.

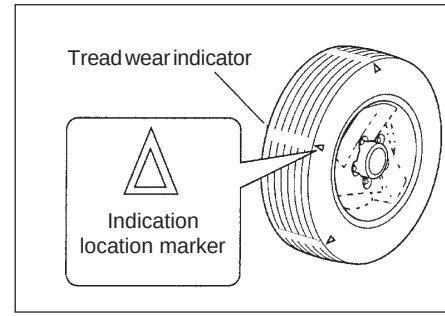
When replacing tyres, use the same size, load rating and construction type as the original tyres on your vehicle. Check the tyre placard on your vehicle for tyre size and load rating. Refer to Chapter 8. Using a different size or type of tyre may affect such things as ride, handling, speedometer / odometer calibration, ground clearance and tyre clearance to the body or chassis.

Tyres with a higher speed rating and / or maximum load rating in excess of that listed are also acceptable as replacements provided they are fitted to a suitable rim size.

New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

Replace your tyres if any of the following occur:

1. The tread wear indicators, illustrated, appear or the cord or fabric is showing.
2. The tread or side wall is cut, split, or cracked deep enough to expose the cord or fabric.
3. The tyre has a bump or bulge in it (indicating internal damage).
4. The tyre has a puncture, cut or other damage which can not be repaired because of the size or location of the damage.



If in doubt about the extent of damage to the tyre, have it examined by a tyre specialist.

If a pressure loss occurs while driving, do not attempt to drive on the deflated tyre more than is necessary to stop safely. Driving even a short distance on a deflated tyre can damage it and the wheel beyond repair.

When an object which has punctured the tyre is removed, ensure that the repairs are made in accordance with the tyre manufacturer's recommendations.

WARNING:

Tyres which have been repaired or retreaded cannot be operated safely at high speeds. Therefore, their use is not recommended.

CHAPTER 8

Specifications

Page

8-2 Specifications

8-3 General specifications

8-4 Identification labels

SPECIFICATIONS

Engine type	M15A 16 valve DOHC
Piston displacement	1490 cc
Compression ratio	9.5:1
Bore	78.0 mm
Stroke	78.0 mm
Power	74 kW @ 6000 rpm
Torque	138 Nm @ 4500 rpm
Oil specification	ACEA service classification A2 or A3. Viscosity grade 10W-30.
Refill oil capacity	3.8 litres (including filter)
Fuel tank capacity	41 litres
Coolant capacity	5.1 litres (including reservoir tank)
Coolant ratio / type	Mixture using 70% water and 30% coolant, Holden part number 92145591.
Brake fluid type	DOT 3 SAE specification J1703
Windscreen washer fluid	Small amount of Optikleen to the water, Holden part number 92140005

GENERAL SPECIFICATIONS

Transmission

	5 speed manual transmission	4 speed autmatic transmission
Fluid capacity	2.2 litres	5.8 litres
Fluid type	Gear oil, API GL-4 SAE 75W-90 or equivalent	Auto trans fluid Dexron®-III

Transfer case and final drive

	Transfer case	Final drive
Fluid capacity	0.5 litres	1.0 litre
Fluid type	Gear oil, API GL-5 SAE 80W-90 Hypoid or equivalent	

Dimensions

Overall length		3625 mm
Overall width		1640 mm
Overall height		1605 mm
Track	Front	1420 mm
	Rear	1405 mm
Wheel base		2360 mm

Battery

Voltage	12 V
Amp hours	28 A/hr

IDENTIFICATION LABELS

Engine number

Individual identification numbers are stamped onto the engine.

Safety compliance plate

The safety compliance plate is located in the engine bay, on the passenger end of the fire wall.

Tyre placard

The tyre placard is located on the driver's door pillar.

Holden identification plate and Holden number

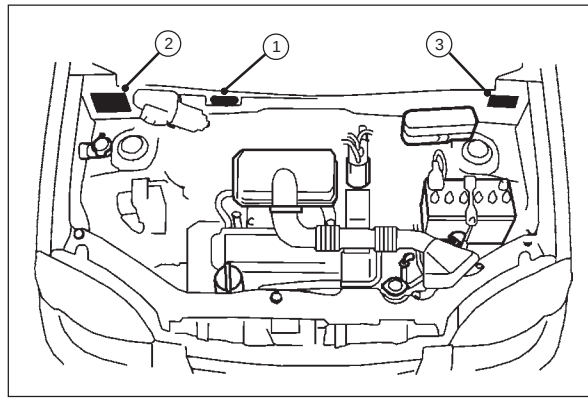
The Holden identification plate (if fitted) is located in the engine bay, on the passenger-side inner guard. The Holden number displayed on this plate is used for warranty and Roadside Assistance identification.

Vehicle identification number stamp

This stamp shows the ISOVIN number, which should be used for identification of spare parts.

Refer to the following page for the breakdown of the ISOVIN number.

The ISOVIN number (1) is stamped into the rail, at the driver's side of the engine bay, on the identification plate (2) and is also on the safety compliance plate (3).



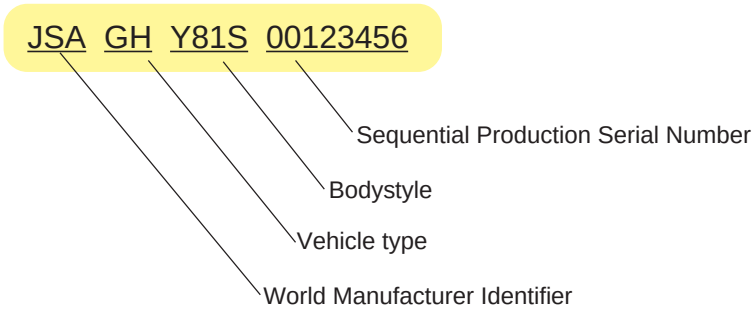
Safety compliance plate

The safety compliance plate (3) shows the vehicle approval number, category code, make, model and seating capacity.

IDENTIFICATION LABELS

Vehicle identification number (ISOVIN)

The individual ISOVIN Number appears on the Safety Compliance Plate, on the firewall in the engine compartment. This number is used for identification of parts.



CHAPTER 9

Customer Assistance

Page

9-2 Customer assistance

9-3 For New Zealand Holden owners

9-4 Roadside assistance

9-6 New vehicle warranty

9-8 Parts and accessories warranty

9-9 Warranty questions and answers

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle, together with the people you deal with while you have the vehicle.

Normally, any problems with the sales, operation, servicing or the validity of original equipment supplied with your vehicle will be handled by your Holden Dealer's Sales and Service Department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

+ Therefore, we suggest you discuss any concern with one of the Holden Dealer's management people. If you have not received satisfaction from the Sales Manager or Service Manager – go to the General Manager or to the Dealer Principal.

By now you should have satisfaction. If not, the Holden Customer Assistance office is at your disposal.

% The Holden Customer Assistance representatives can be telephoned from anywhere within Australia for only the cost of a local call. The Melbourne area number is:

9646 5466

Outside the Melbourne Metropolitan area, the number is:

1800 033 349

If your concern relates to parts / accessories and you have made contact with the Dealer or Distributor without satisfaction, you may contact Holden Service Parts Operations on (03) 9797 7341.

Naturally, telephoning is the quickest and the best way to contact. However, if you prefer to write the address is:

) The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne, 3001.

Your letter should clearly outline your concern or query, and include the following:

- • Your name and address.
- • Telephone numbers, both private and business.
- • Servicing Dealer's name and address.
- • Vehicle model.
- • Vehicle identification number (I.S.O.V.I.N.), refer to the inside front cover of the service booklet in your vehicle's glovebox.
- • Date of purchase.
- • Current odometer reading.

Most of this information will be found on the Vehicle Identification Certificate, located inside the front cover of the service booklet in your vehicle's glovebox.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

FOR NEW ZEALAND HOLDEN OWNERS

The information in this Owner's Handbook applies primarily to Australian Holden vehicles and there may be some differences to the Warranty and Owner Assistance provisions for New Zealand. Applicable details for New Zealand are set out in the Holden Warranty and Owner Assistance Information booklet enclosed in the New Zealand glovebox wallet.

New Zealand Assistance can be reached on:

% **0800 HOLDEN (0800 465 336)**

This number provides access to New Zealand Roadside Assistance as well as New Zealand Customer Assistance.

) If you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne,
Australia, 3001.

ROADSIDE ASSISTANCE

3 YEAR
24 HOUR ROADSIDE ASSISTANCE

Our commitment to your satisfaction

Holden's Roadside Assistance is part of the unequalled commitment by Holden to provide total motoring satisfaction.

From the moment delivery is made, our aim is to provide the finest possible ownership experience, from design through manufacturing to servicing and now beyond to the open road, Australia wide.

We hope the need never arises, but if it does, we'll be there to help through Holden Roadside Assistance.

How does Holden Roadside Assistance work?

Holden Roadside Assistance is provided by Holden Ltd. and delivered by the collective resources of the Australian Automobile Clubs and Associations including the constituents of Assist Australia (AA). To request a copy of the terms and conditions, contact Customer Assistance Service Line on 1800 033 349.

Which vehicles are covered by the service?

As of 1st November 1993 all new Holden passenger and light commercial vehicles are covered for 36 months from the date of first registration.

Holden Roadside Assistance is extended to private and business vehicles, taxis, rental companies, all government and fleet operators.

What will Holden Roadside Assistance do for me?

Holden Roadside Assistance is designed to get you mobile on any road that is trafficable to normal two wheel drive vehicles. In the event of the unexpected happening, from your keys being locked in your vehicle to mechanical and accident advice, help is readily available by simply calling the toll free number 1800 817 100.

All Holden luxury vehicles receive the added benefits of Holden Roadside **Ultra** Assist which includes accommodation, alternative transport, rental vehicle, assistance in case of accident, theft and medical emergency and Australia wide vehicle recovery.

Can I upgrade to Roadside Ultra assist?

Yes, owners can upgrade to Holden Roadside **Ultra** Assistance for a fee by dialling 1800 645 668. To request a copy of the **Ultra** terms and conditions, contact Customer Assistance Service Line on 1800 033 349.

ROADSIDE ASSISTANCE cont.

When do the benefits begin?

Cover begins from the date of first registration. An interim card entitles you to immediately receive all the benefits of Holden Roadside Assistance.

Where can I get Roadside Assistance?

Holden Roadside Assistance is available to you at home, or at the roadside, anywhere in Australia, should you need it. In remote or sparsely populated areas you may experience delays in obtaining Roadside Assistance due to your location, the availability of the service provider and accessibility.

Is there a membership or joining fee?

No, Holden Roadside Assistance is complimentary with every new Holden passenger vehicle and light commercial vehicle for 36 months from the date of first registration.

What will Holden Roadside Assistance cost me?

Materials, fuel and spare parts must be paid for at the time of service. The service personnel attending will issue a receipt for these expenses. Reimbursement of expenses covered by Holden's warranty can be claimed by contacting your local Holden Dealer.

What happens if I sell my vehicle?

Holden Roadside Assistance stays with the vehicle, so if you sell your vehicle during the 36 month period, it is still eligible for the balance of the Holden Roadside Assistance. The new owner simply registers for the service by using the change of ownership form supplied in the Roadside Assistance booklet.

How do I call for assistance?

Simply call Holden Roadside Assistance toll free on 1800 817 100 from anywhere in Australia. For further information regarding the service and full terms and conditions, refer to the Roadside Assistance Kit in the glovebox or call the toll free Customer Assistance Service Line on 1800 033 349.

NEW VEHICLE WARRANTY CERTIFICATE

New Vehicle Warranty application

This Warranty is given by Holden Ltd., ABN 84 006 893 232, ('Holden'). The Warranty applies to the vehicle identified on the inside front cover of the service booklet in your vehicle's glovebox. It is provided to the original and subsequent owners / operators driving the vehicle within Australia during the Warranty Period.
This Warranty is given in addition to all rights conferred by law on that person.

Australian vehicles

This Warranty is only applicable to vehicles purchased and operated in Australia.

Owners of vehicles purchased in Australia but operated overseas should consult the local Dealer in the country of operation about any Warranty applicable to their vehicle. This Warranty does not apply for Holden vehicles exported overseas. Similarly, this Warranty is not provided for vehicles purchased overseas and imported into Australia.

Repairs covered

Subject to the exclusions shown on the following page, this Warranty covers the correction, during the Warranty Period, of any vehicle defect related to materials or workmanship and advised to a Holden Dealer or Authorised Service Outlet, by repair or at Holden's option by replacement.

Warranty Period

The coverage commences from the date of delivery (or in the case of a demonstrator vehicle the date when the vehicle was first placed into service by the Dealer). The coverage expires at the end of the period of 3 years after the commencement date or after the vehicle has travelled 100 000 kilometres, whichever occurs first.

No charge

Warranty work undertaken (including parts and labour) will be carried out at no cost to the vehicle owner. However, this work should not be confused with servicing specified in the Maintenance schedule in the service booklet for which a charge is payable.

NEW VEHICLE WARRANTY CERTIFICATE cont.

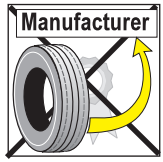
Warranty exclusions

- **Damage**

  Your Warranty does not extend to the following damage:
  Damage caused by an accident, fire, theft or moving objects striking the vehicle.
  Damage caused by industrial fallout, chemicals or sealants.
  Damage caused by atmospheric fallout or flood, hail, salt, etc.

- **Maintenance items**

  Services such as brake adjustment, replacement of filters, wiper rubbers etc., which are required as part of normal vehicle maintenance (refer to the service booklet in your vehicle's glovebox).



- **Tyres**

  The tyres (and tubes where applicable) fitted to your vehicle are not covered by this Warranty. However, they may be covered by the tyre manufacturer.

- **Batteries**

  Batteries are warranted for 12 months.

- **Misuse**

  This Warranty does not cover damage caused by:

  (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc., or neglect
  (b) operation of the vehicle after the defect is known
  (c) failure to carry out proper maintenance services (refer to the service booklet in your vehicle's glovebox)
  (d) use of incorrect types and grades of fuel, oil or lubricants
  (e) alteration of the vehicle by anyone not authorised by Holden
  (f) fitting of parts or accessories not recommended by Holden
  (g) any work carried out on the vehicle by anyone except an authorised Holden Dealer or authorised Service Outlet.

PARTS AND ACCESSORIES WARRANTY

Holden warrants Holden approved Parts and Accessories ('Parts' and 'Accessories') for the periods and on the conditions set out below. The Warranty covers the correction, during the relevant Warranty Period, of defects in any such Parts and Accessories, by repair or at Holden's option by replacement.

- **Accessories installed to the new vehicle**

  Holden approved Accessories installed by a Holden Dealer or authorised Service Outlet to the new vehicle at the time of purchase are covered together with the New Vehicle warranty for the period of 3 years or 100 000 km, whichever occurs first.

- **Parts and Accessories installed after new vehicle delivery by a Holden Dealer or authorised Service Outlet**

  Parts and Accessories installed after new vehicle delivery by a Holden Dealer or authorised Service Outlet are covered for 2 years or 50 000 km (whichever occurs first). If the vehicle is still within the New Vehicle Warranty the Parts and Accessories are covered by the longer of:

  2 years / 50 000 km (whichever occurs first)

  or

  the end of the New Vehicle Warranty.

  As an example, an Accessory installed in a 7 month old vehicle would be covered until the end of the New Vehicle Warranty; an Accessory installed in a 2½ year old vehicle would be covered until the end of 4½ years or a further 50 000 km from when the Accessory was installed.

- **Purchased at retail or trade**

  Parts and Accessories purchased at trade or retail and installed by other than a Holden Dealer or authorised Service Outlet are warranted for 1 year from the date of purchase. Please keep a receipt to support warranty claims.

  The Warranty does not cover the labour costs of removal / reinstallation of Parts and Accessories when installed or rectified by other than a Holden Dealer or authorised Service Outlet.

- **Parts and accessories warranty exclusions**

  The tyres (and tubes where applicable) are not covered by this warranty. However, they may be covered by the tyre manufacturer.
  Batteries are warranted for 12 months from date of purchase.
  Parts which are required as part of normal vehicle maintenance are warranted against manufacturing defect at the time of installation. Consult your Holden Dealer to confirm the period of this warranty.

WARRANTY QUESTIONS AND ANSWERS

This section is designed to assist you in understanding the Holden Warranty provided with your new vehicle.

The following are some of the most frequently asked questions for which detailed answers are provided.

Q 1. How do I go about obtaining Holden Warranty service?

It is the responsibility of the Selling Dealer to provide Holden Warranty service, therefore, you should take your vehicle to the Selling Dealer whenever Holden Warranty service is needed. However, if this is not possible, you may go to any other Authorised Holden Dealer. The details recorded inside the front cover of the service booklet will be required by the Dealer.

Q 2. What should I do if my vehicle becomes unsafe or inoperative as a result of a defect which is covered by the Holden New Vehicle Warranty?

You should contact the nearest Authorised Holden Dealer or Holden Customer Assistance Service as soon as possible, and arrange for that Dealer to carry out the required Holden Warranty Service.

Q 3. What should I do if, in an emergency, Holden Warranty service is required and an Authorised Holden Dealer is not available to provide such service at the time?

If, in an emergency, a repair, replacement or adjustment (covered by the Holden New Vehicle Warranty) is required to enable your vehicle to be operated safely and it is not practical for you to go to an Authorised Holden Dealer, the service (to the extent that it is necessary to enable your vehicle to be operated safely) may be performed by any other qualified mechanic or repairer. A claim for the reasonable cost may be made through the authorised Holden Dealer who would normally provide you with Holden Warranty service. You must also take your vehicle to the Authorised Holden Dealer for inspection of the service and / or completion of any required Holden Warranty service, as soon as possible.

Note: During normal business hours you should seek authorisation from your nearest Authorised Holden Dealer or Holden Customer Assistance Service, prior to repairs being commenced.

Q 4. Are damage or injury, loss of time, inconvenience, commercial or other direct or indirect loss covered by the Holden Warranty?

No, these items are not covered. Holden warranty only covers the repair, replacement or adjustment of those parts of your vehicle which are found to be defective in materials or workmanship. No other types of claim for compensation of any kind, even if the same resulted from a consequence of a defect in materials or workmanship in your vehicle, will be recognised under the Holden New Vehicle Warranty.

You may have rights under the law to claim compensation outside of the Holden New Vehicle Warranty, but any claim based on those rights should be separately pursued.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 5. Will I have to pay for maintenance costs during the Warranty Period?

Maintenance costs are not covered by the Holden New Vehicle Warranty. The Maintenance Schedules in the service booklet (in your vehicle's glovebox) specify the *minimum* maintenance required for your vehicle operating under normal conditions.

The Maintenance items (except where they are required as a result of defects in materials or workmanship) for which you will have to pay include:

- Engine tune-up, including spark plugs replacement.
- Replacement of all filters, engine and other belts, hoses , wiper blades and clutch linings.
- Cleaning or flushing of fuel, coolant, brake, engine, transmission, differential, power steering etc., after 1500 km.
- Carbon and sludge removal.
- Maintenance servicing of emission control system devices.
- Adding to (or replacing) lubricants.
- Adding to (or replacing) air conditioning refrigerant, after 1500km.
- Any necessary adjustments to drive belts, transmissions, clutch, park brake etc.
- Wheel balancing – after 1500km.
- Wheel alignment.
- De-dusting or de-glazing of brake linings or pads – after 1500km.
- Brake lining wear or damaged brake components due to lining wear.
- Clutch lining wear or damaged clutch components due to lining wear.
- Brake disc pad or disc wear.
- Battery recharging.
- Paint, bright metal finish and trim, due to normal deterioration.
- Body panel adjustment – after 1500 km.
- Door, or bonnet lock adjustments.
- Glass or channel adjustments – after 1500km.
- Body rattle, squeaks and general tightening of bolts, fasteners and fittings – after 1500 km.
- Chipped glass or breakage.
- Torn or damaged floor mats or carpets.
- Normal wear and tear to trim components.

Q 6. Are my tyres covered by the Holden New Vehicle Warranty?

No. The tyres fitted to your vehicle are covered by a separate warranty provided by the tyre manufacturer. Any Authorised Holden Dealer will assist you by discussing any queries which you might have with respect to the tyre manufacturer's warranty with the tyre manufacturer's representative.

WARRANTY QUESTIONS AND ANSWERS cont.

Q 7. Will I have to pay for any costs or expenses in connection with the provision of Holden Warranty service?

All parts and labour used in carrying out Holden Warranty service at the premises of the servicing Holden Dealer are free of charge. Whenever Holden Warranty service is to be carried out by the servicing Holden Dealer it is your responsibility to deliver your vehicle to the servicing Holden Dealer's premises.

If, as a result of a defect which is covered by the Holden New Vehicle Warranty, your vehicle cannot be driven safely and you arrange for the nearest Authorised Holden Dealer to carry out the required Holden Warranty service, Holden will accept reasonable towing costs to move your vehicle to the nearest Holden Dealer's premises. Before employing a towing company, contact the nearest Holden Dealer and / or Holden Customer Assistance Service (refer to further on in this chapter) to obtain guidance.

Q 8. Would my vehicle's engine benefit from fuel additives, oil additives or coolant additives not marketed by Holden?

The use of break-in oil, tune-up compounds, friction-reducing compounds and other supplemental additives is not recommended; their use will not only increase operating costs, but may also be detrimental to the operation of your vehicle and may affect the validity of your New Vehicle Warranty.

Only the fluids and lubricants referred to in this handbook should be used.

UNAUTHORISED STATEMENTS IN RELATION TO HOLDEN PRODUCTS

No Holden Dealer or other person is authorised or permitted to give or make any statement, assertion or undertaking in relation to the quality, performance, characteristics, descriptions or fitness for any purpose of any Holden product or in connection with the supply of any Holden product, which is at variance with any written statement, assertion or undertaking on any of these subjects given or made by Holden in its published sales literature, and Holden does not accept any responsibility for such unauthorised action.

CHAPTER 10

Tow and load

Page

10-2 Loading the vehicle

10-4 Towing

LOADING THE VEHICLE

Overloading

Overloading is a safety hazard and could shorten the life of your vehicle or its parts. Never exceed the specified loads for your vehicle or trailer.

Kerb weight

Kerb weight is the mass of the unoccupied vehicle in running order, unladen, with all fluid reservoirs filled to nominal capacity (including fuel) and with all standard equipment fitted.

Kerb weight (manual) = 985 kg

Kerb weight (automatic) = 1000 kg

Carrying capacity

The recommended carrying capacity is the maximum allowable weight that may be added to the vehicle, in addition to the kerb weight. This includes:

- up to 5 occupants
- luggage
- any fixtures used to secure the luggage (for example, roof racks).

Carrying capacity = 408 kg

Gross Vehicle Mass (GVM)

The GVM is the maximum allowable vehicle weight. This includes luggage, passengers, roof load and a full tank of fuel. If you are towing, the load on the tow ball must be included.

GVM = 1430 kg

Rear axle load

The rear axle load is the maximum allowable load on the ground at the rear axles.

Note: Take the tow ball load into account when determining the rear axle load.

Maximum rear axle load = 750 kg

WARNING:

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported, a purpose-built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some states.

LOADING THE VEHICLE cont.

Roof loads

For safety reasons and to avoid damaging the roof, use only the roof racks approved by Holden for your vehicle.

Maximum allowable load on top of the roof rails = 50 kg.

The roof racks approved by Holden for your vehicle weigh 7 kg, allowing a further 43 kg to be loaded.

Roof loads alter the handling of the vehicle due to a change in the centre of gravity. When carrying loads on the roof, avoid swerving or sharp steering. To maximise safety, distribute the load evenly and ensure that all loads are adequately secured. Increase tyre pressures to the value given for a full load and do not exceed 120 km/h.

The weight of the roof racks and their contents must be considered when evaluating the overall loaded condition of the vehicle.

Roof rail load = 43 kg when the Holden approved roof racks are fitted.

Vehicle loads

When towing, take the additional load that the trailer puts on the vehicle into account. Pay particular attention to how the trailer changes the loads on the front and rear axles of the vehicle.

It may be necessary to use a public weighbridge to check that none of the load capacities have been exceeded.

If you load your vehicle other than to these recommendations, ensure that the GVM and maximum rear axle load are not exceeded.

Accessories (bull bars, driving lamps, insect screens etc.)

When fitting accessories, take care not to restrict the airflow through the air conditioner condenser or the radiator. Restricted airflow can result in the engine overheating and poor air conditioning performance.

The weight of all accessories must be included when evaluating the overall loaded condition of the vehicle.

Note: Bull bars can affect airbag operation. Refer to Chapter 6.

TOWING

Towing equipment

Your vehicle is designed primarily as a passenger vehicle, so handling, durability and economy may be affected when towing. Before attempting any towing, ensure that the correct equipment is fitted.

The following towing equipment is available from your Holden Retailer:

- tow bar
- trailer wiring
- trailer brakes.

Note: Holden towing equipment is recommended where it is available. Where it is not available, no recommendation is made as to the make of equipment which should be used. Holden will not accept liability for defects occurring in towing equipment not recommended by Holden or for defects in the vehicle arising from the use of such equipment or for loss or injury caused by the use of such equipment. The use of such equipment may void your New Vehicle Warranty to the extent that Holden considers the non-recommended equipment affects the specifications or quality of your Holden vehicle.

Towing capacity (trailer brakes fitted) = 800 kg

Towing capacity (without trailer brakes) = 350 kg

Reduce the maximum towing and loading limits in higher elevations and / or mountainous terrain.

Gross Towed Mass (GTM)

The GTM is the maximum allowable mass of a trailer and load that may be towed by your vehicle.

Running-in before towing

Holden recommends that your new vehicle is driven for at least 1500 km before being used for towing. If you must tow in the first 1500 km, do not exceed 80 km/h.

Note: This also applies if the vehicle is fitted with a new or reconditioned engine, transmission or axle.

Country / state regulations

There are various regulations related to towing which can vary between different countries and states. These regulations normally cover the maximum allowable trailer mass and driving speeds. You must be familiar with the regulations for each of the states in which you intend to tow. Details of the regulations are available from the relevant state road traffic authorities or motoring associations.

TOWING cont.

Tow ball load

The tow ball load is the weight on the tow ball (and therefore the towing vehicle) when the packed trailer is hitched.

It must not exceed or drop below the following:

- a loaded trailer weighing up to 625 kg – at least 4% of the loaded trailer weight but not more than 80 kg
- a loaded trailer weighing over 625 kg – at least 25 kg but not more than 80 kg.

The tow ball load can be adjusted by moving the contents of the trailer to shift the load position.

If the tow ball load is too light (ie. less than 4% of the loaded trailer weight) or too heavy (ie. greater than 80 kg), the steering and handling of the vehicle will be greatly impaired. It is desirable to aim for the maximum, rather than the minimum tow ball load.

As a general guideline, for single axle trailers the tow ball load should be approximately 10% of the loaded trailer mass. For heavy trailers with more than one axle, the load should be 5-10 % of the loaded trailer mass.

When measuring the tow ball load, make sure that the drawbar of the loaded trailer is at the same height as it will be when the trailer is mounted on the vehicle. This is particularly important for a trailer with tandem axles.

Safe towing tips

Your vehicle will handle differently when towing. It's a good idea to make a couple of short distance trips with the trailer before you set off on the big one.

Have your vehicle correctly maintained and serviced.

Have your trailer maintained and serviced, with particular attention given to condition of brakes, tyres, suspension, wheel bearings, towing coupling and lighting.

You should have an extended-arm mirror on both sides of your vehicle as necessary.

Headlamps may need adjusting after the loaded trailer has been hitched, particularly if a load distribution hitch is not used.

Use a lower gear, rather than your brakes when descending steep hills.

If your trailer moves off the road behind you, allow the left wheels of your vehicle to move off as well. When it is safe to do so, carefully steer back on to the road. A sudden attempt to steer back could make you swerve dangerously.

TOWING cont.

Towing precautions

- Your vehicle will handle differently when towing, so make a couple of short-distance trips with the trailer to become familiar with the changed handling characteristics.
- Ensure that your vehicle is correctly maintained and serviced. Refer to Chapter 12.
- Ensure that your trailer is maintained and serviced, with particular attention to the condition of the brakes, tyres, suspension, wheel bearings, lighting and towing equipment.
- Do not exceed 80 km/h when towing. Reduce your driving speeds when towing.
- Inflate the tyres to the maximum recommended pressure shown on the tyre placard when towing. Refer to Chapter 7.
- Place loads in the centre of the trailer if possible (that is, above the axle) and secure them so that they cannot slip.
- Ensure that the brakes on the trailer are designed to cope with the braking requirements of that trailer under all towing conditions without adversely affecting the brakes on the vehicle.
- Ensure you have enough room when cornering and avoid sudden manoeuvres.
- Use extended-arm rear vision mirrors when the trailer is wider than the towing vehicle.
- In the case of a trailer with low directional stability, it is advisable to use a stabiliser to dampen any rolling motion.
- The cooling fan is driven electrically and so is not dependant on engine speed. At high engine speeds a lot of heat is produced and at low engine speeds less heat is produced. For this reason, when driving uphill, do not shift down into a lower gear (which will increase engine speed) when the vehicle can climb the hill in the higher gear.
- Before descending steep hills, slow down and select a lower gear.
- Check the headlamp aim after the loaded trailer has been hitched.
- Whenever a towbar is removed, be certain to have any mounting holes in the underbody properly sealed to prevent the possible entry of exhaust fumes, dust and water.
- Ensure that no part of the tow bar obscures the rear licence plate.
- Remove the towbar tongue when it is not in use.
- More frequent vehicle maintenance is required when using your vehicle to tow a trailer. Refer to Chapter 12.

CHAPTER 11

Cleaning

Page

11-2 Interior cleaning

11-4 Caring for paint

11-6 Paint polishing, wheels and tyres

11-7 Exterior glass cleaning

11-8 Cleaning products

INTERIOR CLEANING

WARNING:

Many cleaners may be toxic, flammable or may damage the interior. When cleaning the interior, avoid volatile cleaners such as acetone, lacquer thinners, enamel reducers, nail polish removers or cleaners such as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, gasoline or naphtha for any cleaning purpose. Be sure the vehicle is well ventilated while using any cleaners and always follow the cleaner manufacturer's recommendations.

Care and cleaning of upholstery

Every few weeks, use a vacuum cleaner to remove dust and dirt which accumulate on upholstery; vacuum more often with constant driving. Before attempting to remove spots and stains, determine the following as accurately as possible:

- The type of fabric.
- The nature and age of the stain.
- The effect of the stain removal agent upon the colour, structure and general appearance of the upholstery.

It is essential that stains be removed as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they can oxidise and set, making removal difficult, if not impossible.

Cleaning PVC coated fabrics

Vinyl (PVC) coated fabrics are used for seating, head linings and auxiliary trimming. The grades used vary according to their function. PVC fabrics are generally made by coating fabric with synthetic resins. Care of PVC fabrics is a relatively simple but important matter. Wipe the surface with a dry cloth during the regular cleaning of the vehicle.

If dirt accumulates and becomes embedded in the material pattern, use the following procedure:

1. Using lukewarm water and soap or Holden Velour Fabric and Vinyl Cleaner, work up thick suds on a piece of cheesecloth and apply to the surface. A soft bristle brush can be used to remove stubborn stains or dirt embedded in the grain of the material.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth. These cleaning instructions also apply to the rubber floor mats.

INTERIOR CLEANING

Cleaning cloth trim

Where the seats in your vehicle are upholstered with cloth, observe the following instructions:

1. Remove the loose dirt and dust with a vacuum cleaner or soft brush. Do not use a whisk broom or a coarse hair brush.
2. Sponge the fabric lightly with warm water containing a detergent and a small amount of ammonia for normal soiling.
3. For more stubborn marks, rub the fabric lightly and sponge it again. Holden Velour Fabric and Vinyl Cleaner may be used sparingly.
4. Soak up excess fluid with a dry cloth.

Vehicles with air bags

Use only a dry cloth or mild cleaner to clean the steering wheel and dashboard areas. Do not use aggressive cleaning agents.

Cleaning carpet

- Thoroughly brush or vacuum the carpet.
- For extremely soiled carpet, vacuum thoroughly to remove loose dirt then use Holden Velour Fabric and Vinyl Cleaner to clean a small area at a time. After each area is cleaned, remove as much of the cleaner as possible with the vacuum cleaner.

Cleaning seat belts

Clean the seat belts using a mild non-abrasive soap and lukewarm water. Finally, thoroughly sponge the washing solution out of the belts.

WARNING:

Do not bleach or dye seat belts since this may severely weaken them.

Cleaning interior glass

- Clean the interior glass area of the vehicle with a clean soft cloth and Holden Glass Cleaner.
- Take care not to damage the demister when cleaning the inside of the rear window.
- To avoid causing scratches, do not use abrasive cleaners on the glass surfaces.

CARING FOR PAINT

Road bloom, etching and pitting

If oils, dirt, exhaust and other pollutants are allowed to build up over a long period of time, they can combine to affect the paint finish.To preserve a new vehicle finish, correctly treat conditions that can damage the paint.

Tree sap, bird droppings, salt water and other natural deposits can leave an etching or scarring if allowed to stay on the paint.

Tar spots and some industrial fallout can react chemically and cause pitting in the surface of the paint.

The paint finish of the vehicle gives a very high degree of protection against the weather, but wear and deterioration occur when the vehicle is exposed to elements for prolonged periods. Therefore, garage the vehicle whenever possible.

Paint inspection

Make regular inspections for scratch marks, cracks or damaged areas, all of which could develop rust.

Repair any deep scratches, cracks or breakdown in the finish without delay. Ensure that any rusting is counteracted immediately to prevent rust 'creep' beyond the damaged area. This is particularly important in tropical and coastal areas where the moist or salt-laden air accelerates rusting.

To prevent damage of the paint surface, remove foreign matter as soon as possible.

Note: Remove acidic foreign matter, such as bird droppings, within 24 hours.

Washing your vehicle

Help maintain the paint condition by keeping it clean. A wash once a week will do wonders. However, it must be done correctly.

- Never use an automatic wash that requires anything touching the paint (other than water).
- Wash your vehicle once a week to remove build up of any grime on the paint.
- Never wash your vehicle in direct sunlight; find a shady spot to wash your vehicle.

1. Wet the vehicle thoroughly from top to bottom with plenty of cold water (in accordance with current water restrictions, if any). This removes any grit or other loose particles and substances. Do not use a sponge or cloth at this stage.
2. Fill a bucket with lukewarm water and add no more than two capsful of gentle detergent. Do not use hot water, strong soap or chemical detergents.
3. To remove bird droppings, soak the area with a wet sponge for several minutes before washing off. If this does not work, use a solution of one litre of water and 110 grams of dissolved baking soda (bicarbonate of soda). Rinse with clean water.
4. Starting with the roof, use a clean sponge to clean a small section at a time. Do not allow liquid to dry before rinsing it off with clean water. When you have completed each section, rinse the whole vehicle again with cold water.
5. Dry the clean vehicle thoroughly with a good quality chamois.

CARING FOR PAINT cont.

WARNING:

Take care when moving the vehicle after washing, in case water has affected the brakes. Apply the brakes lightly to indicate whether they have been affected. To dry the brakes quickly, lightly apply the brakes while maintaining a slow forward speed with a clear area ahead, until brake performance returns to normal.

Removing stains, such as grease, oil and tar spots

Washing your vehicle regularly removes most of the harmful substances deposited on the paint before they cause permanent damage. However, some substances are not easy to remove, so if you notice stains on the paint, remove them at the earliest possible opportunity.

Remove grease and oil, and even tar if it is fresh, with a little kerosene or turpentine. As a precaution against staining, wash and polish the area immediately after the stain has been removed.

A rubbing or cutting compound can be used after a normal wash, however, do not apply this on a regular basis as it removes paint.

WARNINGS:

- **Some chemical cleaners used for removing road oils and tars from painted surfaces are detrimental to automotive paint.**
- **If petrol is spilt on the paint when refilling, wash it off immediately with clean water. Petrol has a tendency to stain or soften a new paint finish during the weathering out period, particularly in high temperatures.**
- **Do not use petrol to clean any painted or plastic surfaces.**

Ventilation system intake

The intake area between the bonnet and windscreen may collect leaves, which will impair air flow into the vehicle. Clear this area of debris whenever you wash your vehicle.

Under vehicle washing

Your vehicle has a factory-applied PVC undercoating in the wheel arches (including longitudinal members) which provides permanent protection and needs no special maintenance.

The surfaces of the vehicle underside not covered by PVC are provided with a durable protective wax coating. Once a year, preferably before the start of the cold season, the wax coating and PVC coating should be checked and if necessary restored to perfect condition.

Commercial bitumen and rubber materials can damage the PVC coating. Have all work on the underbody performed by a Holden Retailer, as it requires knowledge of the specified materials and experience concerning their application.

Wash the vehicle underbody following the end of the cold weather season to remove any dirt adhering to the underbody, as this may also contain salt.

PAINT POLISHING, WHEELS AND TYRES

Polishing

Under normal circumstances and with weekly washing, polishing is not required to retain the shine on the paint. However, using a Polymer Glaze every 3 months reduces natural contaminants which can build up on the paint.

Note: Always wash your vehicle to remove loose grit, surface dirt, dust or grease prior to applying a polish.

Tyres

- Sponge the tyres with cold water for normal cleaning.
- Remove oil and grease with soap and water or detergent.
- For tar or other substances, a mild abrasive such as mechanic's hand soap or kitchen cleaning powder may be used, but thoroughly wash the tyres with water to finish.
- Restore a new look to the tyres with Holden Tyre and Bumper Shine.

Note: Do not use petrol for cleaning tyres.

Alloy wheels

To preserve the original appearance of alloy wheels, keep them clean and free from build up of road dirt. Holden Wheel Cleaner can be used for cleaning alloy wheels.

Do not use abrasive cleaners on alloy wheels.

EXTERIOR GLASS CLEANING

Glass cleaning – general

Take special care to avoid scratching the glass. If the glass surfaces are cleaned at the same time as the rest of the vehicle, it is possible that particles of grit will cause fine scratches.

Flush off any mud on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use Holden Glass Cleaner and wash each section of glass in turn, making sure that the water, its container and the sponge are quite clean and free from grit.

An old, clean linen cloth is better than new material for polishing glass.

Windscreen

Keep the windscreen clean so that the wiper blades can be as effective as possible. Regularly replace the wiper blades to help avoid windscreen scratching.

Note: Do not use abrasive cleaners on the glass as they can cause scratches and impair vision.

After the windscreen has been cleaned with a wet sponge, wipe the windscreen over with a soft, lint free cloth or chamois.

Add Holden Optikleen to the windscreen washer reservoir to enhance cleaning.

Wiper blades

Oil and road scum thrown up onto the windscreen cause smearing when the wipers are switched on and the dirt is then transferred onto the wiper blades. Many owners omit to clean the wiper blades and consequently smearing reappears on the glass when the wiper blades are next used.

Lift the blades off the windscreen and, using a clean cloth, wipe them with Holden Optikleen.

Do not operate the wiper blades by hand as this can damage the wiper drive mechanism. Also, if the wiper blades are frozen to the windscreen, lift them out from the glass by hand before switching on the wipers.

Always wet the windscreen before using the wiper blades to clean dust and dirt from the windscreen, especially in dry conditions.

Note: Do not use the windscreen washer when the reservoir is empty.

CLEANING PRODUCTS

PART NUMBER	SIZE	DESCRIPTION	USAGE
92145132	237 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145418	437 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145130	237 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145416	437 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, hood linings, mats and carpets, etc.
92145133	237 ml	Glass Cleaner	Cleans all glass surfaces.
92145419	437 ml	Glass Cleaner	Cleans all glass surfaces.
92140005	500 ml	Optikleen	Windscreen washer solvent.
92140004	5 ml	Optikleen Sachet	Windscreen washer solvent; 1 sachett per washer bottle refill.
92145129	237 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145415	437 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145131	237 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145417	437 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145140	120 ml	Leather Revitaliser	Revitalises the leather upholstery.
92145141	120 ml	Leather Cleaner	Cleans the leather upholstery.
92145142	120 ml	Leather Protector	Protects the leather upholstery.
92145143	1 Kit	Leather Care Kit	Contains leather revitaliser, cleaner and protector.
92145135		Chamois	Cloth for wiping off excess water from the vehicle's exterior after washing and rinsing.
92145134		Handle Grip Sponge	Sponge for washing the vehicle.
92145136		Microfibre Glass Cleaning Cloth	Cloth for cleaning all glass surfaces.
92145137		Microfibre General Purpose Cleaning / Polishing Cloth	Cloth for general purpose cleaning / polishing.

1500km or 1 month INSPECTION

Holden invites the new owner of this vehicle to return to the selling Retailer for a free service inspection at 1500 km.

Owner's Name
Mr
Mrs .....
Miss
Other .....

Address .....

Town .....

State ..... Postcode .....

Reg. no. ..... Engine no .....

ISOVIN ..... Model .....

Odometer reading ..... Date of Acquisition .....

Selling Retailer's Stamp & Signature .....

This vehicle has been thoroughly checked in accordance with the items on the reverse side of this voucher.

This inspection is provided free of charge.

Servicing Retailer's Stamp & Signature

Servicing Retailer .....

Town ..... State .....

Owner's signature .....

1500 km or 1 month Inspection Validation

This vehicle has been thoroughly checked in accordance with the 1500 km/one month inspection.

Retailer .....

Service Manager's signature .....

Date ..... Odometer reading .....

- ❑ COOLANT – check fluid level, check coolant %
- ❑ ENGINE OIL LEVEL– check
- ❑ LEAKAGE – visual check of engine and transmission
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ ROAD TEST

15 000 km or 1 year

SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1 hour labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

15 000 km or 1 year Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – check fluid level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT– check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ MANUAL TRANS FLUID – check
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERENTIAL OIL – replace
- ❑ LEAKAGE – visual check of engine and transmission
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ PARK BRAKE – check lever and cable
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID – check fluid level
- ❑ ROAD TEST

30 000 km or 2 years

SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.9 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

30 000 km or 2 year Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ VALVE CLEARANCE – check
- ❑ EXHAUST SYSTEM – (except catalyst) check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – check fluid level
- ❑ LEAKAGE – visual check of engine and transmission
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – lubricate
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ BRAKES – check drums and shoes
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ CLUTCH PEDAL FUNCTION – check
- ❑ REMOTE CONTROL BATTERY – replace
- ❑ STEERING SYSTEM – check
- ❑ ROAD TEST

- ❑ BRAKE FLUID – change every 2 years (regardless of km)

45 000 km or 3 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.5 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

45 000 km or 3 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- q COOLANT – replace
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ AIR CLEANER ELEMENT – replace
- ❑ SPARK PLUGS – replace
- ❑ ENGINE OIL AND FILTER – replace
- ❑ MANUAL TRANSMISSION FLUID – replace
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERANTIAL OIL – check
- ❑ LEAKAGE – visual check of engine and transmisson
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ DRIVE AXLE BOOTS / PROPELLER SHAFTS – check
- ❑ ROAD TEST

- q BRAKE FLUID – change every 2 years (regardless of km)

60 000 km or 4 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

60 000 km or 4 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.9 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....
.....
.....

Signature .....

Date .....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ VALVE CLEARANCE – check
- ❑ EXHAUST SYSTEM – (except catalyst) check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – check fluid level
- ❑ AUTO TRANSMISSION fluid hose – inspect
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – lubricate
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ BRAKES – check drums and shoes
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ CLUTCH PEDAL FUNCTION – check
- ❑ REMOTE CONTROL BATTERY – replace
- ❑ STEERING SYSTEM – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

75 000 km or 5 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1 hour labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

75 000 km or 5 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERENTIAL OIL – check
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ ROAD TEST

q BRAKE FLUID – change every 2 years (regardless of km)

90 000 km or 6 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 2.5 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

90 000 km or 6 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – replace
- ❑ ENGINE ACCESSORY DRIVE BELT – replace
- ❑ VALVE CLEARANCE – check
- ❑ EXHAUST SYSTEM – (except catalyst) check
- ❑ AIR CLEANER ELEMENT – replace
- ❑ SPARK PLUGS – replace
- ❑ FUEL EMISSION SYSTEM – check
- ❑ PCV VALVE – replace
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – check fluid level
- ❑ MANUAL TRANSMISSION FLUID – replace
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – lubricate
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ BRAKES – check drums and shoes
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ CLUTCH PEDAL FUNCTION – check
- ❑ REMOTE CONTROL BATTERY – replace
- ❑ DRIVE AXLE BOOTS / PROPELLER SHAFTS – check
- ❑ STEERING SYSTEM – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

105 000 km or 7 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.6 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

105 000 km or 7 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ AIR CLEANER ELEMENT – check
- ❑ FUEL FILTER – replace
- ❑ ENGINE OIL AND FILTER – replace
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERENTIAL OIL – check
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ ROAD TEST

q BRAKE FLUID – change every 2 years (regardless of km)

120 000 km or 8 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

120 000 km or 8 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.9 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....
.....
.....

Signature .....

Date .....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ VALVE CLEARANCE – check
- ❑ EXHAUST SYSTEM – (except catalyst) check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – check fluid level
- ❑ AUTO TRANSMISSION fluid hose – inspect
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – lubricate
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ BRAKES – check drums and shoes
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ CLUTCH PEDAL FUNCTION – check
- ❑ REMOTE CONTROL BATTERY – replace
- ❑ STEERING SYSTEM – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

135 000 km or 9 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.5 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

135 000 km or 9 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – replace
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ AIR CLEANER ELEMENT – replace
- ❑ SPARK PLUGS – replace
- ❑ ENGINE OIL AND FILTER – replace
- ❑ MANUAL TRANSMISSION FLUID – replace
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERENTIAL OIL – check
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ DRIVE AXLE BOOTS / PROPELLER SHAFTS – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

150 000 km or 10 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.5 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

150 000 km or 10 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – check level, check coolant %
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ VALVE CLEARANCE – check
- ❑ EXHAUST SYSTEM – (except catalyst) check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – check fluid level
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – lubricate
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ BRAKES – check drums and shoes
- ❑ BRAKE PIPES, BRAKE PRESSURE HOSES, FUEL LINES, EXHAUST AND SUSPENSION – visual check
- ❑ RUBBER BOOTS – check
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ CLUTCH PEDAL FUNCTION – check
- ❑ REMOTE CONTROL BATTERY – replace
- ❑ STEERING SYSTEM – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

165 000 km or 11 years SERVICE COUPON

I authorise performance of the services specified on the rear of this coupon.

I understand I will be charged for the following hours of labour:

- 1.6 hours labour
- add 0.2 hours if brake fluid changed

Also, that there will be a charge for all lubricants, filters and parts used as a result of checks and additional services performed as requested.

There will also be a charge for additional services as requested:

.....

.....

.....

Signature .....

Date .....

165 000 km or 11 years Service Validation

Servicing Retailer .....
Brake fluid changed: YES / NO
Date of Service .....
Odometer .....
Signed .....

Additional services performed: .....
.....
.....
.....
.....

- ❑ COOLANT – replace
- ❑ ENGINE ACCESSORY DRIVE BELT – check
- ❑ AIR CLEANER ELEMENT – check
- ❑ ENGINE OIL AND FILTER – replace
- ❑ AUTO TRANSMISSION – fluid replace
- ❑ TRANSFER CASE OIL – check
- ❑ REAR DIFFERENTIAL OIL – check
- ❑ LEAKAGE – visual check of engine and trans.
- ❑ LAMPS, MONITORING, SIGNAL EQUIPMENT AND PARK BRAKE ADJUSTMENT – check
- ❑ DOOR HINGES, DOOR STOP, BONNET LOCK, TAILGATE HINGES – check
- ❑ WIPER / WASHER – check fluid level and blade condition
- ❑ HEADLAMP ADJUSTMENT – check
- ❑ BODY / UNDERBODY – check corrosion protection
- ❑ BRAKES – check pad thickness
- ❑ WHEELS – check wheel nut torque, tyre condition and tyre pressure
- ❑ CLUTCH CABLE FREE TRAVEL – check for minimum clearance (2 mm)
- ❑ BRAKE FLUID LEVEL – check
- ❑ ROAD TEST

---

q BRAKE FLUID – change every 2 years (regardless of km)

CHAPTER 12

Servicing

Page

12-2 Service intervals

12-4 Additional service requirements

12-6 Maintenance schedule

12-8 Service times

12-9 Service coupons

SERVICE INTERVALS

When it comes to service, remember that your Holden Retailer has the trained personnel and specialised equipment to correctly service your vehicle. Your Retailer invites you to return for all your service needs both during and after the warranty period.

The safety, economy, emission control, performance and reliability of your vehicle cannot be assured unless regular maintenance is performed, preferably by factory-trained technicians at Holden Retailers.

Therefore, it is in the owner's interest that the following services are performed at the specified distance or time (whichever occurs first).

1 500 km	- 1/12 year (1 month)
15 000 km	- 1 year
30 000 km	- 2 years
45 000 km	- 3 years
60 000 km	- 4 years
75 000 km	- 5 years
90 000 km	- 6 years
105 000 km	- 7 years
120 000 km	- 8 years
135 000 km	- 9 years
150 000 km	- 10 years
165 000 km	- 11 years
180 000 km	- 12 years

SERVICE INTERVALS cont.

The services shown in this schedule between 15 000 km and 180 000 km are to be performed after 180 000 km at the same intervals.

Note: All maintenance services as listed in this Owner's Handbook and replacement of service items are the responsibility of the owner and as such are not considered, under the provisions of the New Vehicle Warranty, to be rectification of defective material and workmanship. Items such as wheel alignment, necessary adjustments to drive belts, transmission, clutch, park brake, etc. or any other items which may require servicing due to fair wear and tear will be carried out at the owner's cost.

Damage caused by failure to have proper maintenance services carried out by an authorised Holden Retailer or authorised Service Outlet or in accordance with Holden specifications may void your New Vehicle Warranty. It is strongly recommended that you read the New Vehicle Warranty in Chapter 9 so that you are aware of your Warranty exclusions.

Service coupons are provided further on in this chapter. When each service is performed the coupon is removed to reveal the following service coupon and remind you when the next service is due.

After the service is completed, the owner should check that the service has been validated by the Retailer stamping and signing the coupon stub. This is important as it will not only assist in the determination of Warranty Claims, but will enhance the value of the vehicle when selling.

ADDITIONAL SERVICE REQUIREMENTS

If your vehicle operates under any of the extreme conditions listed in the following table it is recommended that some items be serviced more frequently than the intervals specified in the Maintenance Schedule.

Note: The following extra services need be used only if your vehicle operates continuously under the conditions specified.

If you operate the vehicle under any of these conditions on a one off basis, for example on a holiday trip, then an extra service should be performed for that period only.

As a guide, if you operate continually for a period of one month or 1000 km under any of the extreme conditions, then Holden recommends additional services.

If at any time it is considered that any items should be more frequently serviced due to the type of operation or before a long trip, discuss the situation with the service manager of a Holden Retailer.

Check the engine accessory drive belt @ 15 000 km or 12 months*	-	B	C	D	-	-
Replace the engine accessory drive belt @ 45 000 km or 3 years*	-	B	C	D	-	-
Replace the engine oil and filter @ 5000 km or 4 months*	A	-	C	D	E	F
Replace the spark plugs @ 10 000 km or 8 months*	A	B	C	-	E	F
Check the air filter element @ 2500 km	-	-	C	-	-	-
Replace the air filter element @ 30 000 km or 2 years*	-	-	C	-	-	-
Change the automatic transmission fluid @ 30 000 km or 12 months*	-	B	-	-	E	F
Check the wheel bearings @ 15 000 km or 12 months*	-	B	C	D	-	F
Check the drive axle boots and propeller shaft @ 15 000 km or 12 months*	-	B	-	D	E	F
Replace the manual transmission oil / transfer case oil / final drive oil @ 15 000 km or 12 months*(first replacement), then every 30 000 km or 2 years*	-	B	-	-	E	F

*(whichever comes first)

A = Repeated short trips

B = Driving on rough and / or muddy roads

C = Driving on dusty roads

D = Driving in extremely cold weather and / or salted roads

E = Trailer towing

F = Repeated short trips in extremely cold weather

ADDITIONAL SERVICE REQUIREMENTS cont.

SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer	SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer .....
SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer	SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer .....
SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer	SPECIAL SERVICE FOR ADDITIONAL SERVICE REQUIREMENTS Date ..... km ..... Items performed: .... Servicing Retailer .....

MAINTENANCE SCHEDULE

Use the odometer reading or years, whichever occurs first	x 1000 km	1.5	15	30	45	60	75	90	105	120	135	150	165	180
	or years	1/12	1	2	3	4	5	6	7	8	9	10	11	12
SERVICE ITEMS														
Coolant level and % – check ,		1/12	1	2		4	5		7	8		10	11	
Coolant – replace					3			6			9			12
Engine accessory drive belt – check			1	2	3	4	5		7	8	9	10	11	
Engine accessory drive belt – replace								6						12
Valve clearance – check				2		4		6		8		10		12
Exhaust system (except catalyst) – check				2		4		6		8		10		12
Air cleaner element – check			1	2		4	5		7	8		10	11	
Air cleaner element – replace					3			6			9			12
Spark plugs – replace					3			6			9			12
Fuel filter – replace									7					
Fuel emissions system – replace								6						12
PCV valve – replace								6						12
Engine oil and filter – replace			1	2	3	4	5	6	7	8	9	10	11	12
Engine oil level – check		1/12												
Auto transmission fluid level – check				2		4		6		8		10		12
Auto transmission fluid – replace													11	
Auto transmission fluid hose – inspect						4				8				12
Manual transmission fluid – check			1											
Manual transmission fluid – replace					3			6			9			12
Transfer case oil – check			1		3		5		7		9		11	
Rear differential oil – check					3		5		7		9		11	
Rear differential oil – replace			1											
Leakage – visual check of engine and transmission		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Lamps, monitoring, signal equipment, park brake adjustment – check		1/12	1	2	3	4	5	6	7	8	9	10	11	12

MAINTENANCE SCHEDULE cont.

Use the odometer reading or years, whichever occurs first	x 1000 km	1.5	15	30	45	60	75	90	105	120	135	150	165	180
	or years	1/12	1	2	3	4	5	6	7	8	9	10	11	12
SERVICE ITEMS														
Door hinges, door stop, bonnet lock, tailgate hinges – check			1		3		5		7		9		11	
Door hinges, door stop, bonnet lock, tailgate hinges – lubricate				2		4		6		8		10		12
Wiper / washer system – check levels and blade condition		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Headlamp adjustment – check			1	2	3	4	5	6	7	8	9	10	11	12
Body / underbody – check corrosion protection		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Brake pad thickness – check			1	2	3	4	5	6	7	8	9	10	11	12
Brake drums and shoes – check				2		4		6		8		10		12
Brake lever and cable – check			1											
Brake pipes, brake pressure hoses, fuel lines, exhaust and suspension – visual check		1/12		2		4		6		8		10		12
Rubber boots – check		1/12		2		4		6		8		10		12
Wheels, nut torque, tyre condition, tyre pressure – check		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Clutch cable free travel – check for minimum clearance (2 mm)		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Brake fluid level – check		1/12	1	2	3	4	5	6	7	8	9	10	11	12
Brake fluid – change		Change every 2 years regardless of km												
Clutch pedal function – check				2		4		6		8		10		12
Remote control battery – replace				2		4		6		8		10		12
Drive axle boots / propeller shafts – check					3			6			9			12
Steering system – check				2		4		6		8		10		12
Road test		1/12	1	2	3	4	5	6	7	8	9	10	11	12
SERVICE LABOUR TIMES			1	1.9	1.5	1.9	1	2.5	1.6	1.9	1.5	1.5	1.6	2.7

SERVICE TIMES

- In addition to the previously listed labour times, brake fluid will be changed every 2 years regardless of kilometres. Add 0.2 hours.
- The owner will be charged for all lubricants and materials used plus labour at the times recommended on the coupon.
- The repair or replacement of any part found faulty during a service check and not covered by the Holden warranty will be added to the charges.
- Where any deficiencies are noted, such items should be reported to the owner / operator so that the extra work required can be authorised.
- The use of break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. Their use will not only increase operating costs, but may be harmful to your vehicle.

Vehicle Identification Certificate

Owner's name

Owner's address

Town State Postcode

Vehicle Identification Number (17 character ISOVIN)

Model name

Registration number Engine number

Odometer reading

Date of purchase

Selling Retailer's Stamp and Signature

Holden Ltd, ABN 84 006 893 232 (hereinafter Holden)

Change of name, address or ownership
In the event of a Safety Recall, or for various reasons, Holden may need to contact you as the owner of this vehicle. Also, if less than three years old, this vehicle will qualify for Roadside Assistance, refer to Chapter 9.

If you have recently changed your address, or name, or purchased this vehicle second-hand, please help us to help you by taking a few minutes to fill in and mail the form on the third page of this handbook. For information about Holden's privacy policy, please visit Holden's website at www.holden.com.au.

Note: Please refer to the inside front cover of the service booklet for the Vehicle Identification Certificate.

Printed in Australia
Part No. 92209322
May 2005 (YG Cruze Print 4)

© 2005 Holden Ltd
Reproduction in whole or part is prohibited without written approval from Holden Ltd, ABN 84 006 893 232.

INDEX

Airbags 6-13
Accidents 6-2
Air conditioning 1-22
Air pressures (tyres) 7-8
Alternator (battery) warning indicator 1-12
Anchorage points 6-8
Antifreeze fluid 7-4
Appearance care 11-1
Ashtray 1-25
Assist grips 3-15
Audible warning 1-26
Australian Holden Retailers 9-12
Automatic transmission
- Operation 4-4
- Fluid level 7-7

ABS 4-8

Battery
- Fluid level 7-5
- When flat 6-11
- Specifications 8-3

Bonnet release 1-27
Boiling 6-9
Brakes
- ABS 4-8
- Fluid level 7-6
- Warning indicator 1-13
- Park brake 3-17

Brake pedal 3-16
Bulbs (replacement) 6-17

Capacities (fluid) 8-1
Carbon monoxide caution 5-2
Carpet 11-3
Central locking 2-3
Certificate 9-2
Change of name / address ..... page 3
Check engine indicator 1-11
Child-proof door locks 2-2
Child restraints 3-9
Cigarette lighter 1-25
Cleaning of vehicle 11-1
Cleaning products 11-8
Clock 1-7
Cloth fabrics 11-3
Clutch pedal 3-18
Cooling system
- Fluid level 7-4
- Overheating 6-9
- Temperature gauge 1-5

Courtesy lamp 3-15
Curb weight 10-2
Customer assistance 9-10

Dashboard 1-2
Date 1-10
Dealers (Authorised Holden) 9-12
Demister 1-24
Dimensions 8-3
Dimmer 1-6
Dipping (headlamps) 1-15
Dipstick 7-3
Dome lamp
- Bulb replacement 6-21
- Operation 6-21

Door locks 2-3

Electric door locks 2-3
Electric mirrors 3-12
Emergencies 6-1
Emission control system 5-5
Engine
- Coolant 7-4
- Identification number 8-4
- Overheating 6-9
- Specifications 8-2
- Starting 4-2
- Warning indicator 1-11

INDEX

Engine oil
- Capacity 8-2
- Checking levels 7-3
- Pressure indicator 1-12

Exhaust gas warning 5-2
Exterior lamps 1-15
Exterior glass cleaning 11-7
Extreme operating conditions 12-4

First aid 6-3
Flashers
- Hazard warning 1-16
- Turn signal 1-16

Flat battery 6-11
Flat tyre 6-4
Fluid capacities 8-1
Fluid levels
- Automatic transmission 7-7
- Battery 7-5
- Brake 7-6
- Coolant 7-4
- Oil 7-3
- Windscreen washer 7-5

Folding rear seat 3-4
Fog lamps 1-15
Front seat folding 3-2
Fuel
- Refuelling 5-3
- Tank capacity 5-4
- Gauge 1-6

Fumes caution 5-2
Fuses 6-22

Gauges 1-4
Gear box 4-4
Generator (battery) warning indicator 1-12
Globe replacement 6-17
Glovebox 1-3
Grease spot cleaning 11-5

Hand brake 3-17
Hazard warning flashers 1-16
Head restraint 3-3
Heater controls 1-21
Heated rear window 1-24
Headlamps
- Bulb replacement 6-18
- Switch 1-15

Height adjust seat belts 3-6
High beam indicator 1-11
Holden Retailers 9-12
Holden Customer Assistance 9-10
Hood 1-27
Horn 1-3

Identification numbers 8-4
Ignition switch 1-26
Immobiliser 2-5
Indicators (turn signals) 1-16
Indicator / warning lights 1-11
Infant and child restraints 3-9
Inflation (tyres) 7-8
Instrument panel 1-4
Information / clock display 1-7
Interior (courtesy) lamp 3-15

Jack 6-4
Jump starting 6-12

Keys 2-2
Kerb weight 10-2

INDEX

Labels 8-4
Lights
Bulb replacement 6-17
Instrument panel 1-4
Headlamp switch 1-15
Interior lamp 3-15
Loading information 10-2
Loading the vehicle 10-2
Lock buttons 2-2
Locks
Bonnet 1-27
Door 2-3
Fuel filler 5-3
Ignition 1-26
Lubricants 8-1
Luggage compartment cover 3-20
Lumbar adjustment 3-3

Maintenance schedule 12-6
Manual transmission
Fluid capacity 8-3
Operation 4-6
Medical assistance 6-3
Mirrors 3-12
Model identifications 8-4

New vehicle running-in 4-2
New vehicle warranty 9-2
New Zealand Customer Assist 9-11
New Zealand Retailers 9-28

Octane rating (petrol) 5-4
Odometer 1-4
Oil
Capacity 8-2
Level 7-3
Low pressure warning 1-12
Spot cleaning 11-5
Outlets, air 1-17
Overheating
Procedure 6-9
Temperature warning 1-5
Owner / operator checks 7-2
Owner responsibility
Emission controls 5-5
Weekly checks 7-1
Maintenance servicing 12-2

Paint inspection 11-4
Paintwork cleaning 11-4
Park brake lever 3-17
Parking 4-3
Parts and accessories warranty 9-4
Petrol 5-3
Plates 8-4
Polishing 11-6
Power locking 2-3
Power mirrors 3-12

Radiator - refer to Cooling system
Rear axle load 10-2
Rear seat adjustment 3-4
Rear seat folding 3-4
Rear window demister 1-24
Rear window wipe / wash 1-14
Rear vision mirrors 3-12
Reducing fuel consumption 5-6
Refuelling 5-3
Remote control 2-4
Restraints 3-5
Roadside assistance 9-8
Roof rail loads 10-2
Roof rails 3-19
Running-in 4-2

INDEX

Safer driving precautions 4-3
Safety belts 3-5
Seat
  Front 3-2
  Rear 3-4
Seat belt cleaning 11-3
Seat belts 3-5
Serial number 8-4
Service 12-2
Service coupons 12-9
Service times 12-8
Snow Chains 4-7
Spare wheel 6-4
Specifications 8-1
Speedometer 1-4
Starting
  Flat Battery 6-11
  Normal engine 4-2
Steering 3-17
Steering, tilt 1-3
Stop / tail lamp replacement 6-20
Storage, jack and spare wheel 6-4

Tachometer 1-5
Tailgate lock 2-4
Tank capacity 5-4
Temperature gauge 1-5
Tilt steering 1-3
Time 1-7
Towing
  Trailer 10-3
  Disabled vehicle 6-8
Transmission
  Automatic 4-4
  Manual 4-6
Tripmeters 1-4
Turn signal
  Bulb replacement 6-18
  Operation 1-16
Tyres
  General 7-8
  Inflation pressure 7-8
  Rotation 7-8

Vehicle Identification Number 8-5
Vehicle loading 10-2
Vehicle weights 10-2
Ventilation system 1-17
Vinyl cleaning 11-2

Underseat tray 3-19
Upholstery cleaning 11-2

Warning indicators 1-11
Warranty Certificate 9-2
Warranty questions and answers ... 9-2
Washer fluid 7-5
Washing 11-1
Wheel changing 6-4
Wheel replacement 7-8
Wheel cleaning 11-6
Windows 3-13
Windscreen
Wiper / washer
  Control lever 1-14
  Fluid level 7-5
Wiper blades 11-7

SMB

CONTENTS

Dash layout, tilt steering and horn, gauges, warning / reminder lights, wipers and washers, exterior lights, radio, ventilation and heating, electronic climate control system, air conditioning, demisting, ashtray and lighter, information display, multi-information display, bonnet release, ignition switch, cruise control. *Dashboard* **1**

Immobiliser, keys and locks, door locks and deadlocking, electric door locks, remote control, tailgate glovebox. *Locks* **2**

Front seat adjustment, rear seat adjustment, seat belts, which type of child restraint for your child, child restraints, mirrors, windows, park brake interior lights, roof, convertible model. *Know your vehicle* **3**

Engine starting, safety, automatic transmission, manual transmission, driving precautions, anti-lock brake system, traction control. *Driving* **4**

Fuel, petrol filling, emission control, reducing fuel consumption. *Fuel* **5**

Accidents, being involved, being a witness, medical assistance, flat tyre, towing a disabled Astra, engine overheating, flat battery, airbags, bulb replacement, fuses. *Emergencies* **6**

Miscellaneous checks, engine oil level, engine coolant level, brake fluid level, transmission fluid level, steering fluid level, washer fluid level, battery, tyres, trolley jack, hoist locations. *Weekly checks* **7**

Engine specifications, transmission specifications, dimensions, battery, identification labels. *Specifications* **8**

New Vehicle Warranty certificate, Parts and Accessories Warranty, Warranty questions and answers, Roadside Assistance, Customer Assistance, for New Zealand Holden owners. *Customer Assistance* **9**

Loading the vehicle, towing. *Tow and Load* **10**

Interior cleaning, caring for paint, roof, paint polishing, wheels and tyres, exterior glass, cleaning products. *Cleaning* **11**

Service intervals, service light, additional service requirements, maintenance schedule, service times, service coupons. *Servicing* **12**

Index

We thank you for choosing Holden and want to assure you of our continuing interest in your motoring pleasure and satisfaction and compliment you on your choice.

This handbook applies to all Cruze models. Due to different models and options, you may find reference in this handbook to some equipment not installed in your own vehicle.

Please note that all information, illustrations and specifications in this handbook are based on the latest production information available at the time of printing.

Holden reserves the right to make changes at any time without notice and without incurring any obligation.

CHANGE OF ADDRESS OR OWNERSHIP

Please fill in the form below if you have changed your name, address, bought the vehicle second-hand, or have become the new driver. Holden requires these details in order to contact the operator in the event of a safety recall and to keep the initial 3 year Roadside Assistance details up to date (refer to Chapter 9). For information about Holden's privacy policy, please visit Holden's website at *www.holden.com.au.*
Please mail to the address on the back of this page.

Please tick the appropriate box:

☐ Original Owner ☐ Subsequent Owner

Title: (Mr, Mrs, Miss, Ms.)

First name in full or initials

Surname or Name of Company/Institution/Government Department

Address

Street/box

City/Town

State Postcode

1st contact phone no

2nd contact phone no

Email address

Vehicle registration number

Holden number (if fitted – refer to Chapter 8)

ISOVIN Number (Refer to Chapter 8)

Place in an envelope and mail to:

The Manager - Warranty Administration
Service Department
Holden Limited
Box 548D, G.P.O.
Melbourne
Victoria, 3001

CHANGE OF ADDRESS OR OWNERSHIP

Please fill in the form below if you have changed your name, address, bought the vehicle second-hand, or have become the new driver. Holden requires these details in order to contact the operator in the event of a safety recall and to keep the initial 3 year Roadside Assistance details up to date (refer to Chapter 9). For information about Holden's privacy policy, please visit Holden's website at *www.holden.com.au.*
Please mail to the address on the back of this page.

Please tick the appropriate box:

☐ Original Owner ☐ Subsequent Owner

Title: (Mr, Mrs, Miss, Ms.)

First name in full or initials

Surname or Name of Company/Institution/Government Department

Address

Street/box

City/Town

State Postcode

1st contact phone no

2nd contact phone no

Email address

Vehicle registration number

Holden number (if fitted – refer to Chapter 8)

ISOVIN Number (Refer to Chapter 8)

Place in an envelope and mail to:

The Manager - Warranty Administration
Service Department
Holden Limited
Box 548D, G.P.O.
Melbourne
Victoria, 3001

CHANGE OF ADDRESS OR OWNERSHIP

Please fill in the form below if you have changed your name, address, bought the vehicle second-hand, or have become the new driver. Holden requires these details in order to contact the operator in the event of a safety recall and to keep the initial 3 year Roadside Assistance details up to date (refer to Chapter 9). For information about Holden's privacy policy, please visit Holden's website at *www.holden.com.au.*
Please mail to the address on the back of this page.

Please tick the appropriate box:

☐ Original Owner ☐ Subsequent Owner

Title: (Mr, Mrs, Miss, Ms.)

First name in full or initials

Surname or Name of Company/Institution/Government Department

Address

Street/box

City/Town

State Postcode

1st contact phone no

2nd contact phone no

Email address

Vehicle registration number

Holden number (if fitted – refer to Chapter 8)

ISOVIN Number (Refer to Chapter 8)

Place in an envelope and mail to:

The Manager - Warranty Administration
Service Department
Holden Limited
Box 548D, G.P.O.
Melbourne
Victoria, 3001